Eltako ELECTRONICS

Eltako – The Wireless Building

Reliable, very reasonable and comfortable



Switch To Total Freedom

The Wireless Building with the revolutionary **enocean**® wireless sensors without battery or wire in Eltako wireless pushbuttons and with innovative Eltako wireless switchgear.

Products and prices 2013

Unlimited flexibility and convenience in building services

The wireless network with the revolutionary *enocean*® wireless sensors without battery or wire in Eltako wireless pushbuttons and with innovative Eltako wireless switchgear.

Wireless networks only function well with batteryless wireless modules. They generate their own power supply of approx. 50 µWs when a pushbutton is operated, therefore they require no external power supply.

They transmit ultra short interference-proof signals in the 868 MHz band with a range of up to 100 meters in halls. They are integrated in Eltako wireless pushbuttons that are only 11 mm or 15 mm high. These are screwed directly to the wall, bonded to glass or on furniture, and they can also be screwed conventionally to a socket box. Maintenance-free all inclusive.

Eltako wireless pushbuttons without battery or wire reduce the electrosmog load since they emit high-frequency waves that are 100 times weaker than conventional light switches. There is also a significant reduction in low-frequency alternating fields since fewer power cables need to be installed in the building.

Passive and active wireless sensors	Receivers + switchgear (actuators)	Accessories
		
The batteryless wireless pushbuttons comprise an ***enocean***® wireless module. It is available with inner frame dimensions of 55x55 mm (standard), 60x60 mm (Swiss design) and 63x63 mm (flat pushbutton). They are combinable with the frames of many other manufacturers. Using the same system, we manufacture flat pushbuttons, mini pushbuttons, hand-held transmitters, remote controls, pull switches and hotel key card switch. With its own solar cell power supply, we manufacture window/door contacts, motion/brightness sensors, brightness sensors, twilight sensors, humidity temperature sensors, temperature controllers and temperature sensors. Other sensors require an external power supply.	For centralised wireless systems with DIN rail mounted actuators, we manufacturer wireless antenna modules which are linked to the associated actuators over the Eltako RS485 bus in the switchboard or distribution box. For decentralised wireless systems we manufacture wireless actuators for the 55 mm switch socket and for mounting, e.g. in false ceilings with integrated wireless receivers and internal antennas.	For difficult reception conditions, we manufacture 2-level wireless repeaters - as well as connectors for external antennas. For metal switching cabinets, the standard antenna of the wireless antenna module and the wireless transmitter modules can be replaced by an external antenna with a magnetic base as required. enocean® alliance MEMBER

Reduced costs for many installations in new buildings and for expansions.

Eltako Wireless Building can bring you significant savings over conventional solutions since it cuts out the need to lay cables. Of course, this also depends on the size of the building. However, you always win through greater convenience and flexibility.

Eltako – The Wireless Building
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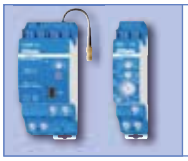
Passive wireless sensors
The shapes and colours of the pushbuttons and frames, the Q Design, pushbuttons without battery or wire, noiseless pushbuttons, pushbuttons with sensor key, pushbutton lighting, frames, blind covers, socket outlets and intermediate frames, single rockers, universal remote control, hand-held transmitter, mini hand-held transmitter, window/door contact, Hoppe window handles, wireless sensor card switch and pull switch; compatible design frames — 1



Active wireless sensors
Transmitter modules, smoke alarm, motion/brightness sensors, brightness sensors, humidity temperature sensors, twilight sensors, temperature controllers, temperature sensors, CO_2 sensors, thermo clock/hygrostat with small actuator, multifunction room operating unit, timer and teach-in list sensors/actuators — 2



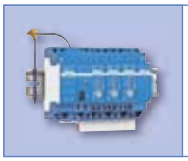
Pushbutton input module and wireless output module for the remote switch system FTS12.
Wireless Powernet connector, wireless Powernet repeater and wireless Powernet phase coupler — 3



Series 14 DIN rail mounted devices – central installation
Impulse switches, relais, dimmer switches, roller shutter switches, sunshade switches, controller for electronic ballast 1-10 V, constant light controller, light scene controllers, staircase off-delay timer, time relay, heating/cooling relay, ventilation relays and mains disconnection relay — 4



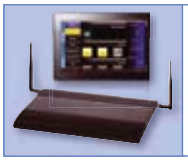
Switching and dimming actuators for installation – decentralised installation
Electronic impulse switches, relays, universal dimmer switches with and without N connection, constant current LED dimmer switch roller blind switch, shading element switch, 1-10 V controller, constant light controllers, light scene controller, staircase off-delay timer, time relay, heating/cooling relays, ventilation relay, mains disconnection relay and gong module — 5



FME14 – The modular single room control with wireless actuators in heating circuit distributors and with wireless room temperature controllers — 6



Smart Metering - smart energy metering, visualisation and display
Energy consumption indicators, visualisation software GFVS-Energy, energy meter transmitter modules, single-phase energy meter transmitter modules and three-phase energy meter — 7



The blue wireless network in the building
Server-assisted building monitoring, control and visualisation.
Secure data management with Eltako GFVS-Safe and the factory installed Eltako Wireless Building Visualisation and Control Software GFVS — V



Accessories
Repeater, switching power supply units, wireless antennas with extension cables, level meter, short-stroke pushbuttons — Z



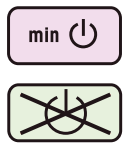
Technical data, teaching-in guide and contents of Eltako wireless telegrams — T



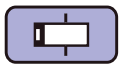
Index, abbreviations of functions and terms of delivery — S

Pictograms

The performance of our devices has become so complex that we have devised pictograms to depict technical features of particular importance.



Minimized standby loss of electronic devices supports international efforts to reduce energy consumption. 98% of the devices produced by ELTAKO have a standby loss of less than 0.8 watt. Numerous pushbuttons, sensors and transmitter modules work **without stand-by loss.**



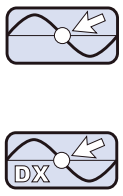
Bistable switching relays help electronic switchgear to reduce heating and current consumption. This prolongs lifetime and reduces or avoids standby loss. After installation the short automatic synchronization in the Off position is carried out, partly at initial operation.



Bidirectional wireless expands the functions of the wireless actuators by another dimension: every change in state and incoming central control telegrams are confirmed by wireless telegram. This wireless telegram can be taught-in in other actuators, the GFVS Software and in universal displays. In addition, a repeater function can partially be enabled in these actuators to reach other actuators that are located far away from the wireless source.

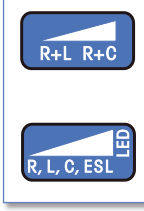


The Eltako RS485 bus connects the wireless antenna modules FAM14, FEM and/or pushbutton input modules FTS12EM with the RS485 bus actuators in the switchboard or distribution box. It is an often used and very safe 2-wire bus.



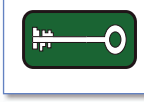
Zero passage switching of the mains voltage sinusoidal wave prolongs contact lifetime. This provides very high switching capacities and the shallow current flow curve protects the connected consumers. This prolongs in particular the lifetime of energy saving lamps ESL.

With the patented Eltako Duplex technology (DX) the normally potential-free contacts can still switch in zero passage when switching 230 V AC 50 Hz and therefore drastically reduce wear. Simply connect the neutral conductor to the terminal (N) and L to the contact input terminal (L). This gives an additional standby consumption of only 0.1 Watt.



Universal dimmer for R, L and C loads. Our universal dimmer switches recognize automatically the connected load and adjust their dimmer function accordingly. Other dimmers have to be replaced when luminaires with different kind of loads will be used later on.

Only universal dimmer switches with the added ESL marking and added LED marking have the associated comfort settings.



Encrypted wireless system. The internet connections from the FVS software to smartphones and/or energy suppliers are highly encrypted.

Only a trained electrician may install our devices, otherwise there is a risk of fire or electric shock.
It is therefore prohibited to sell to other customers for this reason otherwise the risk passes to the seller.

Special models and non-standard control voltages are only supplied ex works. Any return is excluded.

Subject to change! The product descriptions on the internet are valid only for newly manufactured devices at that time.
Also this print-catalogue is only a snap-shot. Older and newer devices might differ from them. Therefore, only the operation instructions enclosed with the devices are binding. Terms of delivery see page S-3.

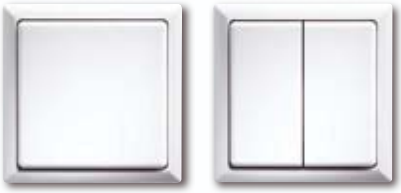
All articles are available with Declarations of Conformity that document compliance of the devices with the Low-Voltage Directive 2006/95/EC and/or the EMC Directive 2004/108/EC. The CE-mark is affixed to the devices and the packaging. All articles comply with EU Directives 2002/95 EC (RoHS) and 1907/2006/EC (REACH) and contain no substances that are on the candidate list.

Supply and invoice only through wholesalers.



The shapes and colours of the pushbuttons	1-0
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Wireless pushbuttons FT4F/FT4GF/FT2SF



80x80x12 mm external dimensions, internal frame dimensions 63x63 mm.

Rocker and double rocker 63x63 mm, 3 mm projecting.



O/I by laser engraving.

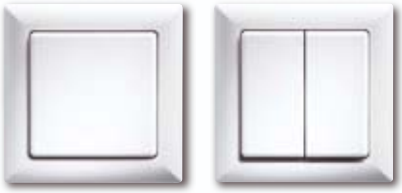


By laser engraving up and down arrows.



By laser engraving customised to text supplied.

Wireless pushbuttons FT55/FT55G/FT55S



80x80x12 mm external dimensions, internal frame dimensions 55x55 mm.

Rocker and double rocker 55x55 mm, 3 mm projecting.



O/I by laser engraving.



By laser engraving up and down arrows.



By laser engraving customised to text supplied.

Wireless pushbuttons FT4/FT4G/FT2S



80x80x12 mm external dimensions, internal frame dimensions 55x55 mm.

Rocker and double rocker 50x50 mm, with intermediate frame, 3 mm projecting.



O/I by laser engraving.



By laser engraving up and down arrows.



By laser engraving customised to text supplied.

Wireless flat pushbuttons FFT55Q



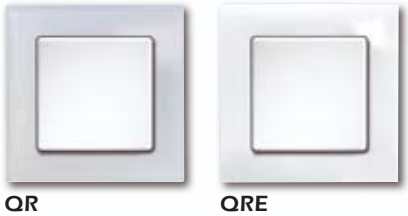
84x84x9 mm external dimensions, internal frame dimensions 55x55mm.

Rocker 55x55 mm, 2 mm projecting.



By laser engraving.

Q-Design frame



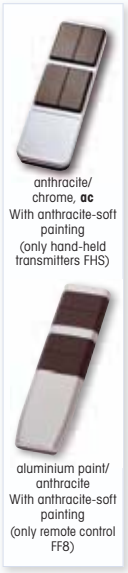
QR **QRE**

84x84x12 mm external dimensions, internal frame dimensions 55x55mm. Rocker 55x55 mm, 3 mm projecting.

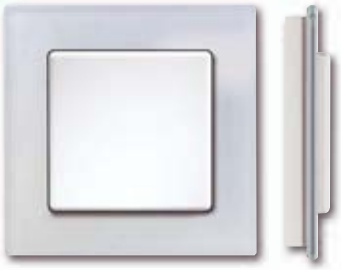


QRA **QRR**





QR1..



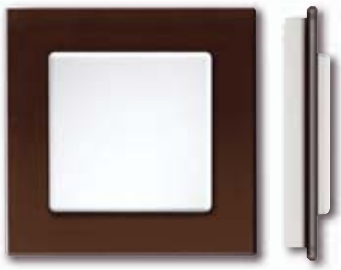
White glass frame with white glossy body

Q Design, single frames

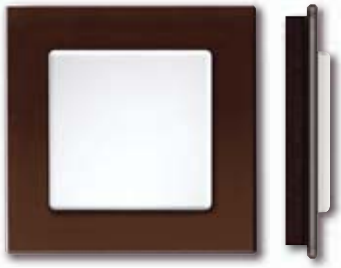
Our wireless flat pushbutton FFT55Q in 84x84mm square design was the first representative of our new pushbutton series in the appropriately named Q-design. With an overall height of only 11 mm, it differs significantly from the other series with 15 mm. Mounted as a single switch, it works particularly easily on the wall.

Now we amended the Q-series with additional frames, which are also available 2-fold and 3-fold. Although the overall height is 15 mm, the design with the 'floating' panel is as light as the 11 mm high wireless flat pushbutton FFT55Q. In addition, both wire- and batteryless EnOcean transmitter modules can be combined, and the noiseless wireless pushbuttons, the wireless sensor pushbuttons and the sensors of the 55 and 63 series.

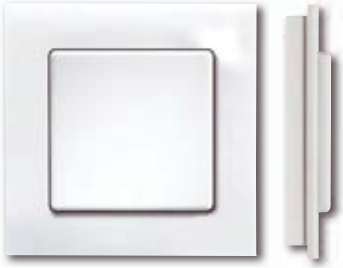
The Q-frames are supplied as an accessory, the pushbuttons FT55, FT55G or FT55S as well as the 55 and 63 sensors with standard frames must be ordered separately.



Black glass frame with white glossy body



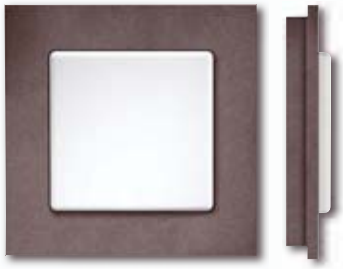
Black glass frame with black body



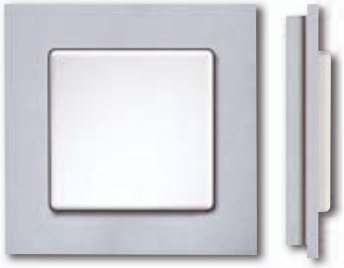
White glossy plastic frame



Brushed stainless steel frame with glossy white body



Anthracite plastic frame



Aluminium-silver plastic frame

QR1Gw-gw	Q frame single white glass, white glossy body	EAN 4010312313237	**15,50 €/pc.**
QR1Gs-gw	Q frame single black glass, white glossy body	EAN 4010312313220	**15,50 €/pc.**
QR1Gs-sz	Q frame single black glass, black body	EAN 4010312313244	**15,50 €/pc.**
QR1E-gw	Q frame single brushed stainless steel, white glossy body	EAN 4010312313275	**29,80 €/pc.**
QR1K-gw	Q frame single white glossy plastic	EAN 4010312313213	**3,30 €/pc.**
QR1K-an	Q frame single anthracite plastic	EAN 4010312313251	**3,60 €/pc.**
QR1K-as	Q frame single aluminium-silver plastic	EAN 4010312313268	**5,30 €/pc.**

Recommended retail prices excluding VAT.

QR2..

Q Design, double frames

Dimensions 84x156mm, usually like the 1-fold frame QR1.



White glass frame with white glossy body | Black glass frame with white glossy body | Black glass frame with black body | Brushed stainless steel frame with glossy white body | White glossy plastic frame | Anthracite plastic frame | Aluminium-silver plastic frame

QR2Gw-gw	Q frame double white glass, white glossy body	EAN 4010312313305	**25,50 €/pc.**
QR2Gs-gw	Q frame double black glass, white glossy body	EAN 4010312313312	**25,50 €/pc.**
QR2Gs-sz	Q frame double black glass, black body	EAN 4010312313329	**25,50 €/pc.**
QR2E-gw	Q frame double brushed stainless steel, white glossy body	EAN 4010312313336	**41,90 €/pc.**
QR2K-gw	Q frame double white glossy plastic	EAN 4010312313343	**4,10 €/pc.**
QR2K-an	Q frame double anthracite plastic	EAN 4010312313350	**4,80 €/pc.**
QR2K-as	Q frame double aluminium-silver plastic	EAN 4010312313367	**7,90 €/pc.**

QR3..

Q Design, triple frames

Dimensions 84x227mm, usually like the 1-fold frame QR1.



White glass frame with white glossy body | Black glass frame with white glossy body | Black glass frame with black body | Brushed stainless steel frame with glossy white body | White glossy plastic frame | Anthracite plastic frame | Aluminium-silver plastic frame

QR3Gw-gw	Q frame triple white glass, white glossy body	EAN 4010312313374	**42,20 €/pc.**
QR3Gs-gw	Q frame triple black glass, white glossy body	EAN 4010312313381	**42,20 €/pc.**
QR3Gs-sz	Q frame triple black glass, black body	EAN 4010312313398	**42,20 €/pc.**
QR3E-gw	Q frame triple brushed stainless steel, white glossy body	EAN 4010312313404	**58,40 €/pc.**
QR3K-gw	Q frame triple white glossy plastic	EAN 4010312313411	**6,60 €/pc.**
QR3K-an	Q frame triple anthracite plastic	EAN 4010312313428	**8,10 €/pc.**
QR3K-as	Q frame triple aluminium-silver plastic	EAN 4010312313435	**13,60 €/pc.**

Recommended retail prices excluding VAT.

QRE1-

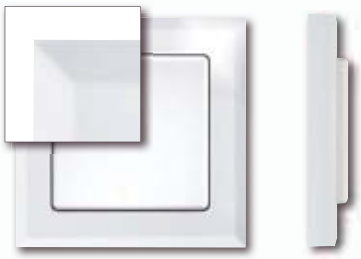


Q Design, single frames positioned vertically, square

These Q-Design frames with outer dimensions of 84x84 mm and a height of 12 mm are placed on the wall and therefore have no 'floating' front panel.
Both cableless and batteryless EnOcean transmitter modules can be combined as well as noiseless wireless pushbuttons, wireless touch pushbuttons and Series 55 sensors.
They require an additional intermediate frame ZR which is included in the scope of supply.
The Q-frames are supplied as an accessory, the pushbuttons FT55, FT55G or FT55S as well as the 55 sensors with standard frames must be ordered separately.
These frames are prepared to receive sensors with additional battery power supply.

QRE1-ws	Q frame single white plastic	EAN 4010312906460	**3,90 €/pc.**
QRE1-rw	Q frame single pure white plastic	EAN 4010312906484	**3,90 €/pc.**
QRE1-wg	Q frame single pure white glossy plastic	EAN 4010312906507	**3,90 €/pc.**
QRE1-sz	Q frame single black plastic	EAN 4010312906491	**3,90 €/pc.**
QRE1-an	Q frame single anthracite plastic	EAN 4010312906514	**3,90 €/pc.**
QRE1-al	Q frame single coated/alu-minium painted plastic	EAN 4010312906487	**6,50 €/pc.**

QRA1-

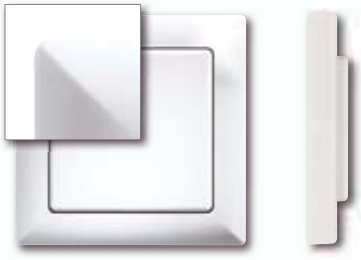


Q Design, single frames positioned vertically, chamfered

Same as QRE1 but with a chamfered frame.

QRA1-ws	Q frame single white plastic	EAN 4010312906521	**3,90 €/pc.**
QRA1-rw	Q frame single pure white plastic	EAN 4010312906545	**3,90 €/pc.**
QRA1-wg	Q frame single pure white glossy plastic	EAN 4010312906569	**3,90 €/pc.**
QRA1-sz	Q frame single black plastic	EAN 4010312906552	**3,90 €/pc.**
QRA1-an	Q frame single anthracite plastic	EAN 4010312906576	**3,90 €/pc.**
QRA1-al	Q frame single coated/alu-minium painted plastic	EAN 4010312906538	**6,50 €/pc.**

QRR1-



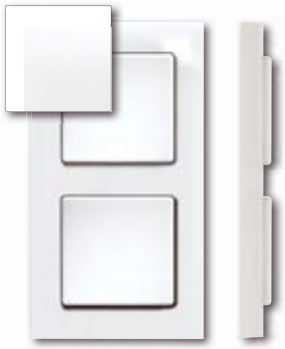
Q Design, single frames positioned vertically, round

Same as QRE1 but with a round frame.

QRR1-ws	Q frame single white plastic	EAN 4010312906583	**3,90 €/pc.**
QRR1-rw	Q frame single pure white plastic	EAN 4010312906606	**3,90 €/pc.**
QRR1-wg	Q frame single pure white glossy plastic	EAN 4010312906620	**3,90 €/pc.**
QRR1-sz	Q frame single black plastic	EAN 4010312906613	**3,90 €/pc.**
QRR1-an	Q frame single anthracite plastic	EAN 4010312906637	**3,90 €/pc.**
QRR1-al	Q frame single coated/alu-minium painted plastic	EAN 4010312906590	**6,30 €/pc.**

Recommended retail prices excluding VAT.

QRE2-



Q Design, double frames positioned vertically, square

These Q-Design frames with outer dimensions of 84x156mm and a height of 12mm are placed on the wall and therefore have no 'floating' front panel.
Both cableless and batteryless EnOcean transmitter modules can be combined as well as noiseless wireless pushbuttons, wireless touch pushbuttons and Series 55 sensors.
They require an additional intermediate frame ZR which is included in the scope of supply.
These frames can only be used for vertical mounting.
The Q-frames are supplied as an accessory, the pushbuttons FT55, FT55G or FT55S as well as the 55 sensors with standard frames must be ordered separately.
These frames are prepared to receive sensors with additional battery power supply. This type of sensor can be fitted either to the top or bottom of double frames. The mounting plate of a wireless pushbutton mounted beneath or upon it, needs to be cut then.

QRE2-ws	Q frame double white plastic	EAN 4010312906644	**4,10 €/pc.**
QRE2-rw	Q frame double pure white plastic	EAN 4010312906668	**4,10 €/pc.**
QRE2-wg	Q frame double pure white glossy plastic	EAN 4010312906682	**4,10 €/pc.**
QRE2-sz	Q frame double black plastic	EAN 4010312906675	**4,10 €/pc.**
QRE2-an	Q frame double anthracite plastic	EAN 4010312906699	**4,10 €/pc.**
QRE2-al	Q frame double coated/alu-minium painted plastic	EAN 4010312906651	**8,90 €/pc.**

QRA2-



Q Design, double frames positioned vertically, chamfered

Same as QRE2 but with a chamfered frame.

QRA2-ws	Q frame double white plastic	EAN 4010312906705	**4,10 €/pc.**
QRA2-rw	Q frame double pure white plastic	EAN 4010312906729	**4,10 €/pc.**
QRA2-wg	Q frame double pure white glossy plastic	EAN 4010312906743	**4,10 €/pc.**
QRA2-sz	Q frame double black plastic	EAN 4010312906736	**4,10 €/pc.**
QRA2-an	Q frame double anthracite plastic	EAN 4010312906750	**4,10 €/pc.**
QRA2-al	Q frame double coated/alu-minium painted plastic	EAN 4010312906712	**8,90 €/pc.**

QRR2-



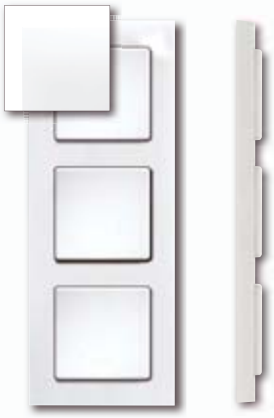
Q Design, double frames positioned vertically, round

Same as QRE2 but with a round frame like FT4F

QRR2-ws	Q frame double white plastic	EAN 4010312906767	**4,10 €/pc.**
QRR2-rw	Q frame double pure white plastic	EAN 4010312906781	**4,10 €/pc.**
QRR2-wg	Q frame double pure white glossy plastic	EAN 4010312906804	**4,10 €/pc.**
QRR2-sz	Q frame double black plastic	EAN 4010312906798	**4,10 €/pc.**
QRR2-an	Q frame double anthracite plastic	EAN 4010312906811	**4,10 €/pc.**
QRR2-al	Q frame double coated/alu-minium painted plastic	EAN 4010312906774	**8,90 €/pc.**

Recommended retail prices excluding VAT.

QRE3-



Q Design, triple frames positioned vertically, square

These Q-Design frames with outer dimensions of 84x227 mm and a height of 12 mm are seated on the wall and therefore have no 'floating' front panel.
Both cableless and batteryless EnOcean transmitter modules can be combined as well as noiseless wireless pushbuttons, wireless touch pushbuttons and Series 55 sensors.
They require an additional intermediate frame ZR which is included in the scope of supply.
These frames can only be used for vertical mounting.
The Q-frames are supplied as an accessory, the pushbuttons FT55, FT55G or FT55S as well as the 55 sensors with standard frames must be ordered separately.
These frames are prepared to receive sensors with additional battery power supply. This type of sensor can be fitted at the top, bottom, top and bottom or in the middle on triple frames. The mounting plate of a wireless pushbutton mounted beneath or upon it, needs to be cut then.

QRE3-ws	Q frame triple white plastic	EAN 4010312906828	**4,30 €/pc.**
QRE3-rw	Q frame triple pure white plastic	EAN 4010312906842	**4,30 €/pc.**
QRE3-wg	Q frame triple pure white glossy plastic	EAN 4010312906866	**4,30 €/pc.**
QRE3-sz	Q frame triple black plastic	EAN 4010312906859	**4,30 €/pc.**
QRE3-an	Q frame triple anthracite plastic	EAN 4010312906873	**4,30 €/pc.**
QRE3-al	Q frame triple coated/alu-minium painted plastic	EAN 4010312906835	**11,50 €/pc.**

QRA3-



Q Design, triple frames positioned vertically, chamfered

Same as QRE3 but with a chamfered frame.

QRA3-ws	Q frame triple white plastic	EAN 4010312906880	**4,30 €/pc.**
QRA3-rw	Q frame triple pure white plastic	EAN 4010312906903	**4,30 €/pc.**
QRA3-wg	Q frame triple pure white glossy plastic	EAN 4010312906927	**4,30 €/pc.**
QRA3-sz	Q frame triple black plastic	EAN 4010312906910	**4,30 €/pc.**
QRA3-an	Q frame triple anthracite plastic	EAN 4010312906934	**4,30 €/pc.**
QRA3-al	Q frame triple coated/alu-minium painted plastic	EAN 4010312906897	**11,50 €/pc.**

QRR3-



Q Design, triple frames positioned vertically, round

Same as QRE3 but with a round frame like FT4F.

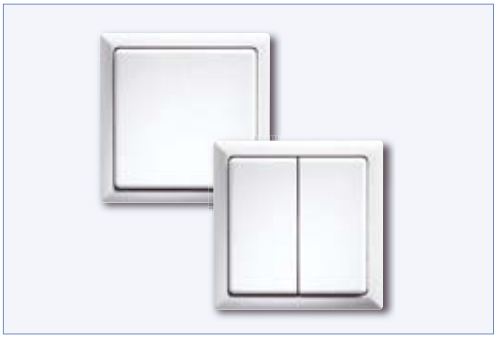
QRR3-ws	Q frame triple white plastic	EAN 4010312906941	**4,30 €/pc.**
QRR3-rw	Q frame triple pure white plastic	EAN 4010312906965	**4,30 €/pc.**
QRR3-wg	Q frame triple pure white glossy plastic	EAN 4010312906989	**4,30 €/pc.**
QRR3-sz	Q frame triple black plastic	EAN 4010312906972	**4,30 €/pc.**
QRR3-an	Q frame triple anthracite plastic	EAN 4010312906996	**4,30 €/pc.**
QRR3-al	Q frame triple coated/alu-minium painted plastic	EAN 4010312906958	**11,50 €/pc.**

Recommended retail prices excluding VAT.



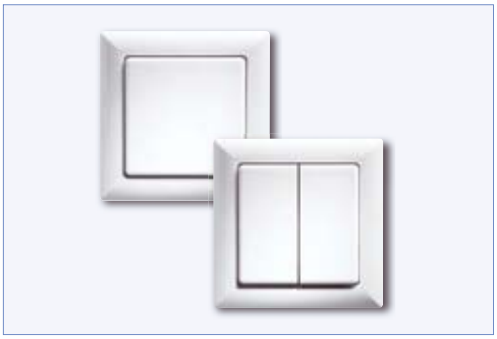
Wireless flat pushbuttons 84x84 mm external dimensions, only 11 mm high, with rocker 55x55 mm. In the new Q design

Wireless pushbuttons FFT55Q 1-7



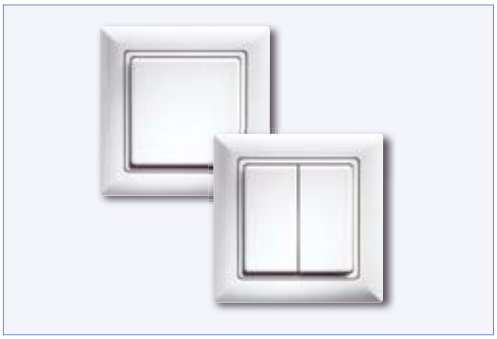
Wireless flat pushbuttons 80x80 mm external dimensions, 15 mm high, with rocker and double rocker 63x63 mm

Wireless flat pushbuttons FT4F 1-8



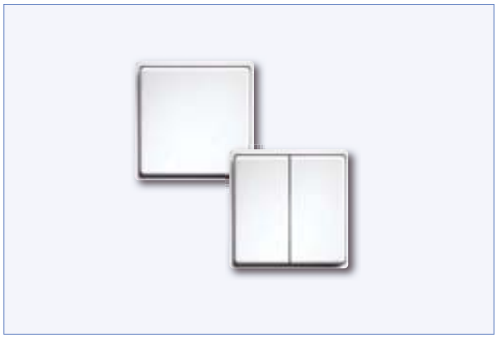
Wireless pushbuttons 80x80 mm external dimensions, 15 mm high, with rocker and double rocker 55x55 mm

Wireless pushbuttons FT55 1-9



Wireless pushbuttons with intermediate frame 80x80 mm external dimensions, 15 mm high, with rocker and double rocker 50x50 mm

Wireless pushbuttons FT4 1-10



Wireless mini pushbuttons 55x55 mm external dimensions, 15 mm high, with rocker and double rocker 50x50 mm

Wireless mini pushbuttons FMT55/2 1-11
Wireless mini pushbuttons FMT55/4 1-12

FFT55Q-



Wireless flat pushbutton with rocker



HW-FFT55Q

Wireless flat pushbutton, 84x84 mm external dimensions, internal frame dimensions 55x55 mm, 11 mm high. Generates the power for wireless telegrams itself when the button is pressed, therefore there is no connecting wire and no standby loss.

The scope of supply comprises the frame R1FQ, a rocker WFQ (both same colour), the wireless module installed firmly on the mounting base and one adhesive foil.

Wireless flat pushbuttons with one rocker can transmit one evaluable signal: **press down rocker in the marked area.**

The wireless flat pushbutton can be screwed onto a flat surface or glued to the wall, on glass or on furniture using the enclosed adhesive foil. Use the sleeves in the 55 mm socket box for screw mounting. Then the **wireless switch lighting FTB** can be snapped into the mounting plate from the rear.

Before screwing on the device, remove the rocker and remove the frame from the mounting plate. Then screw on the mounting plate - with the 'top' marking pointing upwards. Snap the frame and rocker back in.

We recommend sheet metal countersunk screws 2.9x25 mm, DIN 7982 C, for screw connections. Both with rawl plugs 5x25 mm and with 55 mm switch boxes. See Accessories on page Z-6.

In conjunction with the accessory high rocker for FFT55Q, Type HW-FFT55Q, this switch can also be used in combination with the 2- and 3-switch frames QRE, QRA and QRR.

HW-FFT55Q in preparation.

Rockers laser engraved page 1-29.



FFT55Q-an	Wireless flat pushbutton 55x55 mm without battery or wire, anthracite, only 11 mm high	EAN 4010312312650	**32,90 €/pc.**
FFT55Q-al	Wireless flat pushbutton 55x55 mm without battery or wire, coated/aluminium paint, only 11 mm high	EAN 4010312312698	**41,10 €/pc.**
FFT55Q-ws	Wireless flat pushbutton 55x55 mm without battery or wire, white, only 11 mm high	EAN 4010312312605	**32,90 €/pc.**
FFT55Q-rw	Wireless flat pushbutton 55x55 mm without battery or wire, pure white, only 11 mm high	EAN 4010312312636	**32,90 €/pc.**
FFT55Q-wg	Wireless flat pushbutton 55x55 mm without battery or wire, pure white glossy, only 11 mm high	EAN 4010312312667	**32,90 €/pc.**
FFT55Q-sz	Wireless flat pushbutton 55x55 mm without battery or wire, black, only 11 mm high	EAN 4010312312643	**32,90 €/pc.**
HW-FFT55Q	High rocker for wireless flat pushbutton FFT55Q-, ws, rw, wg, sz, an	EAN 4010312906453	**3,30 €/pc.**
HW-FFT55Q-al	High rocker for wireless flat pushbutton FFT55Q-, coated/aluminium paint	EAN 4010312906446	**5,30 €/pc.**

Recommended retail prices excluding VAT.

FT4F-



Wireless flat pushbutton with rocker



Wireless flat pushbutton with double rocker

Wireless flat pushbutton, 80x80 mm external dimensions, internal frame dimensions 63x63 mm, 15 mm high. Generates the power for wireless telegrams itself when the button is pressed, therefore there is no connecting wire and no standby loss.

The scope of supply comprises the frame R1F, a flat rocker WF, a flat double rocker DWF (all same colour), an attachment frame BRF, the mounting base HP, the wireless module and one adhesive foil.

Wireless pushbuttons with one rocker can transmit two evaluable signals: press rocker up and press rocker down. Wireless pushbuttons with double rocker can transmit four evaluable signals: press two rockers up or down.

The mounting base can be screwed onto a flat surface or glued to the wall, on glass or on furniture using the enclosed adhesive foil. Use the sleeves in the 55 mm socket box for screw mounting. Then the **wireless switch lighting FTB** can be snapped into the mounting plate from the rear.

The double rocker is snapped onto the wireless module at the factory. If the double rocker is replaced by the large rocker, remove the rocker halves by pulling off to the front. Do not bend towards the middle. Then snap the large rocker so that the markings 0 and I on the back line up with the same markings on the wireless module.

Adhesion: First adhere the set *comprising the mounting base, frame and attachment frame* - with the latches pointing at the top and bottom. Then snap on the set *comprising the wireless module and rocker* - with the marking 0 on the back always pointing up.

Before screwing, remove the mounting base from the frame and the attachment frame. To do this, press the latches on the mounting base outwards. Then screw the mounting base - with the latches at top and bottom -, snap on the frame with the attachment frame and snap on the set *comprising the wireless module and rocker* - with the marking 0 on the back always pointing to the top.

We recommend sheet metal countersunk screws 2.9x25 mm, DIN 7982 C, for screw connections. Both with rawl plugs 5x25 mm and with 55 mm switch boxes. See Accessories on page Z-6.

The Eltako frame can be replaced on installation at any time by a design frame with internal dimensions 63x63 mm from other manufacturers.

Rockers and double rockers laser engraved page 1-29.



FT4F-ws	Wireless flat pushbutton without battery or wire, white	EAN 4010312302927	**37,50 €/pc.**
FT4F-rw	Wireless flat pushbutton without battery or wire, pure white	EAN 4010312302941	**37,50 €/pc.**
FT4F-wg	Wireless flat pushbutton without battery or wire, pure white glossy	EAN 4010312302972	**37,50 €/pc.**
FT4F-sz	Wireless flat pushbutton without battery or wire, black	EAN 4010312302965	**37,50 €/pc.**
FT4F-an	Wireless flat pushbutton without battery or wire, anthracite	EAN 4010312302996	**37,50 €/pc.**
FT4F-al	Wireless flat pushbutton without battery or wire, coated/aluminium paint	EAN 4010312306697	**44,70 €/pc.**

Recommended retail prices excluding VAT.

FT55-



Wireless pushbutton with rocker



Wireless pushbutton with double rocker

Wireless pushbutton, 80x80 mm external dimensions, internal frame dimensions 55x55 mm, 15 mm high. Generates the power for wireless telegrams itself when the button is pressed, therefore there is no connecting wire and no standby loss.

The scope of supply comprises the frame R, a rocker W55, a double rocker DW55 (all same colour), an attachment frame BRF, the mounting base HP, the wireless module and one adhesive foil.

Wireless pushbuttons with one rocker can transmit two evaluable signals: press rocker up and press rocker down. Wireless pushbuttons with double rocker can transmit four evaluable signals: press two rockers up or down.

The mounting base can be screwed onto a flat surface or glued to the wall, on glass or on furniture using the enclosed adhesive foil. Use the sleeves in the 55 mm socket box for screw mounting. Then the **wireless switch lighting FTB** can be snapped into the mounting plate from the rear.

The double rocker is snapped onto the wireless module at the factory. If the double rocker is replaced by the large rocker, remove the rocker halves by pulling off to the front. Do not bend towards the middle. Then snap the large rocker so that the markings 0 and I on the back line up with the same markings on the wireless module.

Adhesion: First adhere the set *comprising the mounting base, frame and attachment frame* - with the latches pointing at the top and bottom. Then snap on the set *comprising the wireless module and rocker* - with the marking 0 on the back always pointing up.

Before screwing, remove the mounting base from the frame and the attachment frame. To do this, press the latches on the mounting base outwards. Then screw the mounting base - with the latches at top and bottom -, snap on the frame with the attachment frame and snap on the set *comprising the wireless module and rocker* - with the marking 0 on the back always pointing to the top.

We recommend sheet metal countersunk screws 2.9x25 mm, DIN 7982 C, for screw connections. Both with rawl plugs 5x25 mm and with 55 mm switch boxes. See Accessories on page Z-6.

The Eltako frame can be replaced on installation at any time by a design frame with internal dimensions 55x55 mm from other manufacturers.

Rockers and double rockers laser engraved page 1-29.



FT55-ws	Wireless pushbutton 55x55 mm, without battery or wire, white	EAN 4010312308936	**37,50 €/pc.**
FT55-rw	Wireless pushbutton 55x55 mm, without battery or wire, pure white	EAN 4010312305775	**37,50 €/pc.**
FT55-wg	Wireless pushbutton 55x55 mm, without battery or wire, pure white glossy	EAN 4010312305799	**37,50 €/pc.**
FT55-sz	Wireless pushbutton55x55 mm, without battery or wire, black	EAN 4010312305782	**37,50 €/pc.**
FT55-an	Wireless pushbutton 55x55 mm, without battery or wire, anthracite	EAN 4010312305805	**37,50 €/pc.**
FT55-al	Wireless pushbutton 55x55 mm, without battery or wire, coated/aluminium paint	EAN 4010312305829	**44,70 €/pc.**

Recommended retail prices excluding VAT.

FT4-



Wireless pushbutton with intermediate frame and rocker



Wireless pushbutton with intermediate frame and double rocker

Wireless pushbutton, 80x80 mm external dimensions, internal frame dimensions 55x55 mm, 15 mm high. With intermediate frame. Generates the power for wireless telegrams itself when the button is pressed, therefore there is no connecting wire and no standby loss.

The scope of supply comprises the frame R, one large rocker W, one double rocker DW, one intermediate frame ZR (all same colour), the mounting base HP, the wireless module and one adhesive foil.

Wireless pushbuttons with one rocker can transmit two evaluable signals: press rocker up and press rocker down. Wireless pushbuttons with double rocker can transmit four evaluable signals: press two rockers up or down.

The mounting base can be screwed onto a flat surface or glued to the wall, on glass or on furniture using the enclosed adhesive foil. Use the sleeves in the 55 mm socket box for screw mounting. Then the **wireless switch lighting FTB** can be snapped into the mounting plate from the rear.

The double rocker is snapped onto the wireless module at the factory. If the double rocker is replaced by the large rocker, remove the rocker halves by pulling off to the front. Do not bend towards the middle. Then snap the large rocker so that the markings 0 and I on the back line up with the same markings on the wireless module.

Adhesion: First adhere the set *comprising the mounting base, frame and intermediate frame* - with the latches pointing at the top and bottom. Then snap on the set *comprising the wireless module and rocker* - with the marking 0 on the back always pointing up.

Before screwing, remove the mounting base from the frame and the intermediate frame. To do this, press the latches on the mounting base outwards. Then screw the mounting base - with the latches at top and bottom -, snap on the frame with the intermediate frame and snap on the set *comprising the wireless module and rocker* - with the marking 0 on the back always pointing to the top.

We recommend sheet metal countersunk screws 2.9x25 mm, DIN 7982 C, for screw connections. Both with rawl plugs 5x25 mm and with 55 mm switch boxes. See Accessories on page Z-6.

The Eltako frame can be replaced on installation at any time by a design frame with internal dimensions 55x55 mm from numerous manufacturers.

Rockers and double rockers laser engraved page 1-29.



FT4-ws	Wireless pushbutton without battery or wire, white	EAN 4010312300121	**37,50 €/pc.**
FT4-rw	Wireless pushbutton without battery or wire, pure white	EAN 4010312300350	**37,50 €/pc.**
FT4-wg	Wireless pushbutton without battery or wire, pure white glossy	EAN 4010312300459	**37,50 €/pc.**
FT4-sz	Wireless pushbutton without battery or wire, black	EAN 4010312300442	**37,50 €/pc.**
FT4-an	Wireless pushbutton without battery or wire, anthracite	EAN 4010312300817	**37,50 €/pc.**
FT4-al	Wireless pushbutton without battery or wire, coated/aluminium paint	EAN 4010312300138	**44,70 €/pc.**

Recommended retail prices excluding VAT.

FMT55/2-



Wireless mini pushbutton with rocker

Wireless mini pushbutton, 55x55 mm external dimensions, 15 mm high, with rocker. Generates the power for wireless telegrams itself when the button is pressed, therefore there is no connecting wire and no standby loss.

The scope of supply comprises the frame R55, one rocker W55, the wireless module and one adhesive foil.

Wireless pushbuttons with one rocker can transmit two evaluable signals: press rocker up and press rocker down.

The mounting base can be screwed onto a flat surface or glued to the wall, on glass or on furniture using the enclosed adhesive foil.

Before screwing on the device, press the wireless module and rocker from the rear out of the frame. Afterwards screw on the frame with the right and left safety latches and click the *wireless module with rocker* – the marking 0 on the back is always up – into place.

Rockers laser engraved page 1-29.







FMT55/2-ws	Wireless mini pushbutton without battery or wire, with rocker, white	EAN 4010312312445	**35,10 €/pc.**
FMT55/2-rw	Wireless mini pushbutton without battery or wire, with rocker, pure white	EAN 4010312312469	**35,10 €/pc.**
FMT55/2-wg	Wireless mini pushbutton without battery or wire, with rocker, pure white glossy	EAN 4010312312483	**35,10 €/pc.**
FMT55/2-sz	Wireless mini pushbutton without battery or wire, with rocker, black	EAN 4010312312476	**35,10 €/pc.**
FMT55/2-an	Wireless mini pushbutton without battery or wire, with rocker, anthracite	EAN 4010312312506	**35,10 €/pc.**
FMT55/2-al	Wireless mini pushbutton without battery or wire, with rocker, coated/aluminium paint	EAN 4010312312452	**42,30 €/pc.**

Recommended retail prices excluding VAT.

FMT55/4-



Wireless mini pushbutton with double rocker

Wireless mini pushbutton, 55x55 mm external dimensions, 15 mm high, with double rocker. Generates the power for wireless telegrams itself when the button is pressed, therefore there is no connecting wire and no standby loss.

The scope of supply comprises the frame R55, one double rocker DW55, the wireless module and one adhesive foil.

Wireless pushbuttons with double rocker can transmit four evaluable signals: press two rockers up or down.

The mounting base can be screwed onto a flat surface or glued to the wall, on glass or on furniture using the enclosed adhesive foil.

Before screwing on the device, press the wireless module and rocker from the rear out of the frame. Afterwards screw on the frame with the right and left safety latches and click the *wireless module with rocker* – the marking 0 on the back is always up – into place.

Double rockers laser engraved page 1-29.



FMT55/4-ws	Wireless mini pushbutton without battery or wire, with double rocker, white	EAN 4010312312520	**37,50 €/pc.**
FMT55/4-rw	Wireless mini pushbutton without battery or wire, with double rocker, pure white	EAN 4010312312544	**37,50 €/pc.**
FMT55/4-wg	Wireless mini pushbutton without battery or wire, with double rocker, pure white glossy	EAN 4010312312568	**37,50 €/pc.**
FMT55/4-sz	Wireless mini pushbutton without battery or wire, with double rocker, black	EAN 4010312312551	**37,50 €/pc.**
FMT55/4-an	Wireless mini pushbutton without battery or wire, with double rocker, anthracite	EAN 4010312312582	**37,50 €/pc.**
FMT55/4-al	Wireless mini pushbutton without battery or wire, with double rocker, coated/aluminium paint	EAN 4010312312537	**44,70 €/pc.**

Recommended retail prices excluding VAT.



Wireless noiseless flat pushbuttons with rocker and double rocker 63x63 mm

Wireless noiseless flat pushbuttons FT4GF 1-14



Wireless pushbuttons with rocker and double rocker 55x55 mm

Wireless pushbuttons FT55G 1-15



Wireless pushbuttons with intermediate frame, with rocker and double rocker 50x50 mm

Wireless pushbuttons FT4G 1-16

FT4GF-230V-

min



Flat pushbutton
with rocker



Flat pushbutton
with double rocker



Wireless noiseless flat pushbutton, 80x80 mm external dimensions, internal frame dimensions 63x63 mm, 15+15 mm high. Supply voltage 230 V. Only 0.1 watt standby loss. With switchable pushbutton lighting.

The scope of supply comprises the frame R1F, a flat rocker WF, a flat double rocker DWF (all same colour), an attachment frame BRF with plug-in wireless pushbutton module and the mounting base HP with plug-in wireless transmitter module.

Wireless pushbuttons with one rocker can transmit two evaluable signals: press rocker up and press rocker down. Wireless pushbuttons with double rocker can transmit four evaluable signals: press two rockers up or down.

The pushbutton lighting can be switched by means of a jumper. The standby loss therefore increases by 0.1 watt.

Remove the opaque cover of the wireless transmitter module (before remove the module from the mounting base) and do not forget to replace it after making your settings, otherwise there is the risk of electric shock. The gap between the rocker and the frame lights up. To reduce the lighting intensity, replace the opaque cover with one of the two coloured covers.

Fitting using a 55 mm switch box. The wireless electronics only require an installation depth of 15 mm. The FT4GF-230V has a black/blue connecting wire that is 20 cm long and is routed out to the rear.

The double rocker is snapped onto the pushbutton module at the factory. If the double rocker is replaced by the large rocker, remove the rocker halves by pulling off to the front. Do not bend towards the middle. Then snap the large rocker so that the markings 0 and I on the back line up with the same markings on the pushbutton module.

Fitting: at first connect the 230V black and blue connecting wires in the switch box and screw the mounting base to the switch box. The red plug socket has to be at top right and the straps of the mounting base at top and bottom. After that pull the connecting wire of the wireless push-button module through the frame and press the red plug into the red plug socket. Place frame on mounting base and snap pushbutton module and attachment frame in latches on mounting base. The marking 0 of the wireless pushbutton module is at the top. Snap on the double rocker or rocker. The marking 0 on the back line of the rocker has to be at the top.

We recommend sheet metal countersunk screws 2.9x25 mm, DIN 7982 C, for screw connections on 55 mm switch boxes. See Accessories on page Z-6.

The Eltako frame can be replaced on installation at any time by a design frame with internal dimensions 63x63 mm from numerous manufacturers.

Rockers and double rockers laser engraved page 1-29.



FT4GF-230V-ws	Wireless noiseless flat pushbutton, white	EAN 4010312304884	**75,20 €/pc.**
FT4GF-230V-rw	Wireless noiseless flat pushbutton, pure white	EAN 4010312304891	**75,20 €/pc.**
FT4GF-230V-wg	Wireless noiseless flat pushbutton, pure white glossy	EAN 4010312304907	**75,20 €/pc.**
FT4GF-230V-sz	Wireless noiseless flat pushbutton, black	EAN 4010312304921	**75,20 €/pc.**
FT4GF-230V-an	Wireless noiseless flat pushbutton, anthracite	EAN 4010312304938	**75,20 €/pc.**
FT4GF-230V-al	Wireless noiseless flat pushbutton, coated/aluminium paint	EAN 4010312306635	**82,40 €/pc.**

Recommended retail prices excluding VAT.

FT55G-230V-

min



Wireless pushbutton with rocker



Wireless pushbutton with double rocker



Wireless noiseless pushbutton, 80x80 mm external dimensions, internal frame dimensions 55x55 mm, 15+15 mm high. Supply voltage 230 V. Only 0.1 watt standby loss. With switchable pushbutton lighting.

The scope of supply comprises the frame R, a rocker W55, a double rocker DW55 (all same colour), an attachment frame BRF with plug-in wireless pushbutton module and the mounting base HP with plug-in wireless transmitter module.

Wireless pushbuttons with one rocker can transmit two evaluable signals: press rocker up and press rocker down. Wireless pushbuttons with double rocker can transmit four evaluable signals: press two rockers up or down.

The pushbutton lighting can be switched by means of a jumper. The standby loss therefore increases by 0.1 watt.

Remove the opaque cover of the wireless transmitter module (before remove the module from the mounting base) and do not forget to replace it after making your settings, otherwise there is the risk of electric shock. The gap between the rocker and the frame lights up. To reduce the lighting intensity, replace the opaque cover with one of the two coloured covers.

Fitting using a 55 mm switch box. The wireless electronics only require an installation depth of 15 mm. The FT55G-230V has a black/blue connecting wire that is 20 cm long and is routed out to the rear.

The double rocker is snapped onto the pushbutton module at the factory. If the double rocker is replaced by the large rocker, remove the rocker halves by pulling off to the front. Do not bend towards the middle. Then snap the large rocker so that the markings 0 and I on the back line up with the same markings on the pushbutton module.

Fitting: at first connect the 230 V black and blue connecting wires in the switch box and screw the mounting base to the switch box. The red plug socket has to be at top right and the straps of the mounting base at top and bottom. After that pull the connecting wire of the wireless push-button module through the frame and press the red plug into the red plug socket. Place frame on mounting base and snap pushbutton module and attachment frame in latches on mounting base. The marking 0 of the wireless pushbutton module is at the top. Snap on the double rocker or rocker. The marking 0 on the back line of the rocker has to be at the top.

We recommend sheet metal countersunk screws 2.9x25 mm, DIN 7982 C, for screw connections on 55 mm switch boxes. See Accessories on page Z-6.

The Eltako frame can be replaced on installation at any time by a design frame with internal dimensions 55x55 mm from numerous manufacturers.

Rockers and double rockers laser engraved page 1-29.



FT55G-230V-ws	Wireless noiseless pushbutton 55x55 mm, white	EAN 4010312307359	**75,20 €/pc.**
FT55G-230V-rw	Wireless noiseless pushbutton 55x55 mm, pure white	EAN 4010312307366	**75,20 €/pc.**
FT55G-230V-wg	Wireless noiseless pushbutton 55x55 mm, pure white glossy	EAN 4010312307380	**75,20 €/pc.**
FT55G-230V-sz	Wireless noiseless pushbutton 55x55 mm, black	EAN 4010312307373	**75,20 €/pc.**
FT55G-230V-an	Wireless noiseless pushbutton 55x55 mm, anthracite	EAN 4010312307397	**75,20 €/pc.**
FT55G-230V-al	Wireless noiseless pushbutton 55x55 mm, coated/aluminium paint	EAN 4010312307410	**82,40 €/pc.**

Recommended retail prices excluding VAT.

FT4G-230V-

min



Wireless pushbutton with intermediate frame and rocker



Wireless pushbutton with intermediate frame and double rocker



Wireless noiseless pushbutton, 80x80 mm external dimensions, internal frame dimensions 55x55 mm, 15+15 mm high. With intermediate frame. Supply voltage 230 V. Only 0.1 watt standby loss. With switchable pushbutton lighting.

The scope of supply comprises the frame R, one large rocker W, one double rocker DW, one intermediate frame ZR with plug-in wireless pushbutton module (all same colour), one opaque intermediate frame and the mounting base HP with plug-in wireless transmitter module.

Wireless pushbuttons with one rocker can transmit two evaluable signals: press rocker up and press rocker down. Wireless pushbuttons with double rocker can transmit four evaluable signals: press two rockers up or down.

The pushbutton lighting can be switched by means of a jumper. The standby loss therefore increases by 0.1 watt and the opaque intermediate frame must be used.

Remove the opaque cover of the wireless transmitter module (before remove the module from the mounting base) and do not forget to replace it after making your settings, otherwise there is the risk of electric shock. The opaque intermediate frame lights up. To reduce the lighting intensity, replace the opaque cover with one of the two coloured covers.

Fitting using a 55 mm switch box. The wireless electronics only require an installation depth of 15 mm. The FT4G-230V has a black/blue connecting wire that is 20 cm long and is routed out to the rear.

The double rocker is snapped onto the pushbutton module at the factory. If the double rocker is replaced by the large rocker, remove the rocker halves by pulling off to the front. Do not bend towards the middle. Then snap the large rocker so that the markings 0 and I on the back line up with the same markings on the pushbutton module.

Fitting: at first connect the 230V black and blue connecting wires in the switch box and screw the mounting base to the switch box. The red plug socket has to be at top right and the straps of the mounting base at top and bottom. After that pull the connecting wire of the wireless pushbutton module through the frame and press the red plug into the red plug socket. Place frame on mounting base and snap pushbutton module and intermediate frame in latches on mounting base. The marking 0 of the wireless pushbutton module is at the top. Snap on the double rocker or rocker. The marking 0 on the back line of the rocker has to be at the top.

We recommend sheet metal countersunk screws 2.9x25 mm, DIN 7982 C, for screw connections on 55 mm switch boxes. See Accessories on page Z-6.

The Eltako frame can be replaced on installation at any time by a design frame with internal dimensions 55x55 mm from numerous manufacturers.

Rockers and double rockers laser engraved page 1-29.



FT4G-230V-ws	Wireless noiseless pushbutton, white	EAN 4010312304532	**75,20 €/pc.**
FT4G-230V-rw	Wireless noiseless pushbutton, pure white	EAN 4010312304778	**75,20 €/pc.**
FT4G-230V-wg	Wireless noiseless pushbutton, pure white glossy	EAN 4010312304785	**75,20 €/pc.**
FT4G-230V-sz	Wireless noiseless pushbutton, black	EAN 4010312304815	**75,20 €/pc.**
FT4G-230V-an	Wireless noiseless pushbutton, anthracite	EAN 4010312304808	**75,20 €/pc.**
FT4G-230V-al	Wireless noiseless pushbutton, coated/aluminium paint	EAN 4010312308141	**82,40 €/pc.**

Recommended retail prices excluding VAT.



Flat wireless sensor buttons with touch surfaces 63x63 mm

Flat wireless sensor buttons FT2SF 1-18



Wireless sensor buttons with rocker and double rocker 55x55 mm

Wireless sensor buttons FT55S 1-19



Wireless sensor buttons with intermediate frame and with touch surfaces 50x50 mm

Wireless sensor buttons FT2S 1-20

FT2SF-UC-

min



Flat wireless sensor button with one touch surface



Flat wireless sensor button with two touch surfaces



Flat wireless pushbutton with sensor key, 80x80 mm external dimensions, internal frame dimensions 63x63 mm, 15+15 mm high.
Supply voltage 8 till 230 V UC. Only 0.03 till 0.3 watt standby loss.

The scope of supply comprises the frame R1F, a flat rocker WF, a flat double rocker DWF (all same colour), an attachment frame BRF, the mounting base HP with plug-in wireless transmitter module and the sensor module.

The wireless touch button with one rocker can only send one evaluatable signal. This is achieved by teaching in the two touch surfaces behind the rocker in the actuator. With the double rocker fitted at the factory, two evaluatable signals can be transmitted. The sensor module including the mounting plate is mounted together with the top and bottom halves of a double rocker to produce a direction button for an actuator. The connecting wire exits at the bottom rear. Then the top is 'SWITCH ON/DIM UP' and the bottom is 'SWITCH OFF/DIM DOWN'. If two actuators are controlled as universal buttons using the touch button, it is recommended to fit the touch button completely rotated through 90 degrees so that the two double rocker halves are adjacent to each other. Fit using a 55 mm switch box. The wireless electronics device requires an installation depth of only 15 mm. Behind, a 20 cm long black/blue connecting wire is routed to the outside.

The double rocker is snapped onto the touch module at the factory. If the rocker has to be exchanged for a large rocker, pull the rocker halves to the front. Do not bend them to the centre. Then snap on the large rocker.

Before screwing, remove the mounting base from the frame and the attachment frame. To do this, press the latches on the mounting base outwards. Then screw the mounting base - with the latches left and right -, snap on the frame with the attachment frame and snap on the set comprising the sensor module and rocker.

We recommend sheet metal countersunk screws 2.9x25 mm, DIN 7982 C, for screw connections on 55 mm switch boxes. See Accessories on page Z-6.

The Eltako frame can be replaced on installation at any time by a design frame with internal dimensions 63x63 mm from numerous manufacturers.

Rockers and double rockers laser engraved page 1-29.



FT2SF-UC-ws	Flat wireless sensor button, white	EAN 4010312306864	**60,90 €/pc.**
FT2SF-UC-rw	Flat wireless sensor button, pure white	EAN 4010312306888	**60,90 €/pc.**
FT2SF-UC-wg	Flat wireless sensor button, pure white glossy	EAN 4010312306901	**60,90 €/pc.**
FT2SF-UC-sz	Flat wireless sensor button, black	EAN 4010312306895	**60,90 €/pc.**
FT2SF-UC-an	Flat wireless sensor button, anthracite	EAN 4010312306925	**60,90 €/pc.**
FT2SF-UC-al	Flat wireless sensor button, coated/aluminium paint	EAN 4010312306857	**68,10 €/pc.**

Recommended retail prices excluding VAT.

FT55S-UC-

min



Flat wireless sensor button with one touch surface



Flat wireless sensor button with two touch surfaces



Wireless pushbutton with sensor key, 80x80 mm external dimensions, internal frame dimensions 55x55 mm, 15+15 mm high.
Supply voltage 8 till 230 V UC. Only 0.03 till 0.3 watt standby loss.

The scope of supply comprises the frame R, a rocker W55, a double rocker DW55 (all same colour), an attachment frame BRF, the mounting base HP with plug-in wireless transmitter module and the sensor module.

The wireless touch button with one rocker can only send one evaluatable signal. This is achieved by teaching in the two touch surfaces behind the rocker in the actuator. With the double rocker fitted at the factory, two evaluatable signals can be transmitted. The sensor module including the mounting plate is mounted together with the top and bottom halves of a double rocker to produce a direction button for an actuator. The connecting wire exits at the bottom rear. Then the top is 'SWITCH ON/DIM UP' and the bottom is 'SWITCH OFF/DIM DOWN'. If two actuators are controlled as universal buttons using the touch button, it is recommended to fit the touch button completely rotated through 90 degrees so that the two double rocker halves are adjacent to each other. Fit using a 55 mm switch box. The wireless electronics device requires an installation depth of only 15 mm. Behind, a 20 cm long black/blue connecting wire is routed to the outside.

The double rocker is snapped onto the touch module at the factory. If the rocker has to be exchanged for a large rocker, pull the rocker halves to the front. Do not bend them to the centre. Then snap on the large rocker.

Before screwing, remove the mounting base from the frame and the attachment frame. To do this, press the latches on the mounting base outwards. Then screw the mounting base - with the latches left and right -, snap on the frame with the attachment frame and snap on the set comprising the sensor module and rocker.

We recommend sheet metal countersunk screws 2.9x25 mm, DIN 7982 C, for screw connections on 55 mm switch boxes. See Accessories on page Z-6.

The Eltako frame can be replaced on installation at any time by a design frame with internal dimensions 55x55 mm from numerous manufacturers.

Rockers and double rockers laser engraved page 1-29.



FT55S-UC-ws	Wireless sensor button 55x55 mm, white	EAN 4010312306949	**60,90 €/pc.**
FT55S-UC-rw	Wireless sensor button 55x55 mm, pure white	EAN 4010312306963	**60,90 €/pc.**
FT55S-UC-wg	Wireless sensor button 55x55 mm, pure white glossy	EAN 4010312306987	**60,90 €/pc.**
FT55S-UC-sz	Wireless sensor button 55x55 mm, black	EAN 4010312306970	**60,90 €/pc.**
FT55S-UC-an	Wireless sensor button 55x55 mm, anthracite	EAN 4010312307014	**60,90 €/pc.**
FT55S-UC-al	Wireless sensor button 55x55 mm, coated/aluminium paint	EAN 4010312306956	**68,10 €/pc.**

Recommended retail prices excluding VAT.

FT2S-UC-

min



Wireless sensor button with intermediate frame and one touch surface



Wireless sensor button with intermediate frame and two touch surfaces



Wireless pushbutton with sensor key, 80x80 mm external dimensions, internal frame dimensions 55x55 mm, 15+15 mm high. With intermediate frame. Supply voltage 8 till 230 V UC. Only 0.03 till 0.3 watt standby loss.

The scope of supply comprises the frame R, one intermediate frame ZR, one large rocker W, one double rocker DW (all same colour), the mounting base HP with plug-in wireless transmitter module and the sensor module.

The wireless touch button with one rocker can only send one evaluatable signal. This is achieved by teaching in the two touch surfaces behind the rocker in the actuator. With the double rocker fitted at the factory, two evaluatable signals can be transmitted. The sensor module including the mounting plate is mounted together with the top and bottom halves of a double rocker to produce a direction button for an actuator. The connecting wire exits at the bottom rear. Then the top is 'SWITCH ON/DIM UP' and the bottom is 'SWITCH OFF/DIM DOWN'. If two actuators are controlled as universal buttons using the touch button, it is recommended to fit the touch button completely rotated through 90 degrees so that the two double rocker halves are adjacent to each other. Fit using a 55 mm switch box. The wireless electronics device requires an installation depth of only 15 mm. Behind, a 20 cm long black/blue connecting wire is routed to the outside.

The double rocker is snapped onto the touch module at the factory. If the rocker has to be exchanged for a large rocker, pull the rocker halves to the front. Do not bend them to the centre. Then snap on the large rocker.

Before screwing, remove the mounting base from the frame and the attachment frame. To do this, press the latches on the mounting base outwards. Then screw the mounting base - with the latches left and right -, snap on the frame with the attachment frame and snap on the set comprising the sensor module and rocker.

We recommend sheet metal countersunk screws 2.9x25 mm, DIN 7982 C, for screw connections on 55 mm switch boxes. See Accessories on page Z-6.

The Eltako frame can be replaced on installation at any time by a design frame with internal dimensions 55x55 mm from numerous manufacturers.

Rockers and double rockers laser engraved page 1-29.



FT2S-UC-ws	Wireless sensor button, white	EAN 4010312306710	**60,90 €/pc.**
FT2S-UC-rw	Wireless sensor button, pure white	EAN 4010312306727	**60,90 €/pc.**
FT2S-UC-wg	Wireless sensor button, pure white glossy	EAN 4010312306741	**60,90 €/pc.**
FT2S-UC-sz	Wireless sensor button, black	EAN 4010312306734	**60,90 €/pc.**
FT2S-UC-an	Wireless sensor button, anthracite	EAN 4010312306758	**60,90 €/pc.**
FT2S-UC-al	Wireless sensor button, coated/aluminium paint	EAN 4010312306802	**68,10 €/pc.**

Recommended retail prices excluding VAT.

FTB-230V

min



FT4F with FTB

Wireless pushbutton lighting with LED for rear latching to cordless wireless pushbuttons. Supply voltage 230V. Only 0.1 watt standby loss.

The scope of supply contains an opaque intermediate frame for the wireless pushbutton FT4 or FT4CH.

Fitted using a 55mm switch box, the LED lighting requires an installation depth of only 15mm. A 20cm long black/blue connecting wire is routed to the rear.

The gap between the rocker and the frame lights up on the wireless pushbuttons FT4F and FT55, the opaque intermediate frame lights up on FT4 and FT4CH.

To reduce the lighting intensity replace the opaque cover with one of the two enclosed coloured covers. **Caution: You must fit one of these covers, otherwise there is the risk of electric shock.**



FT4 with ZR-op

FTB-230V	Pushbutton lighting	EAN 4010312303313	**21,20 €/pc.**

FTB/8-24V UC

min



FT4F-an with FTB

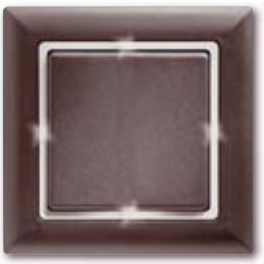
Wireless pushbutton lighting with LED for rear latching to cordless wireless pushbuttons FT4F, FT4 and FT4CH. Supply voltage 8 to 24V UC. Only 0.04-0.1 watt standby loss.

The scope of supply contains an opaque intermediate frame for wireless pushbutton FT4 or FT4CH.

Fitted using a 55mm switch box, the LED lighting requires an installation depth of only 15mm. A 20cm long red/black connecting wire is routed to the rear.

The gap between the rocker and the frame lights up on the wireless pushbuttons FT4F and FT55, the opaque intermediate frame lights up on FT4 and FT4CH.

To reduce the lighting intensity replace the opaque cover with one of the two enclosed coloured covers. **Caution: You must fit one of these covers, otherwise there is the risk of electric shock.**



FT4-an with ZR-op

FTB/8-24V UC	Pushbutton lighting	EAN 4010312303757	**18,40 €/pc.**

Recommended retail prices excluding VAT.

Frames for Flat Pushbuttons, internal dimensions 63x63 mm

R1F-, R2F- and R3F-



Double frame R2F
with DSS+SDO and BLF

Single frame for flat pushbuttons R1F, 80x80 mm external dimensions, double frame R2F, 80x151 mm external dimensions, and triple frame R3F, 80x222 mm external dimensions.

Internal frame dimensions 63x63 mm, 12 mm high.

For the flat range 63x63 mm.

R1F-ws	Single frame for flat pushbuttons white	EAN 4010312904299	**3,90 €/pc.**
R1F-rw	Single frame for flat pushbuttons pure white	EAN 4010312904312	**3,90 €/pc.**
R1F-wg	Single frame for flat pushbuttons pure white glossy	EAN 4010312904343	**3,90 €/pc.**
R1F-sz	Single frame for flat pushbuttons black	EAN 4010312904336	**3,90 €/pc.**
R1F-an	Single frame for flat pushbuttons anthracite	EAN 4010312904909	**3,90 €/pc.**
R1F-al	Single frame for flat pushbuttons coated/aluminium paint	EAN 4010312905715	**6,30 €/pc.**
R2F-ws	Double frame for flat pushbuttons white	EAN 4010312904367	**4,10 €/pc.**
R2F-rw	Double frame for flat pushbuttons pure white	EAN 4010312904381	**4,10 €/pc.**
R2F-wg	Double frame for flat pushbuttons pure white glossy	EAN 4010312904411	**4,10 €/pc.**
R2F-sz	Double frame for flat pushbuttons black	EAN 4010312904404	**4,10 €/pc.**
R2F-an	Double frame for flat pushbuttons anthracite	EAN 4010312904435	**4,10 €/pc.**
R2F-al	Double frame for flat pushbuttons coated/aluminium paint	EAN 4010312905739	**8,90 €/pc.**
R3F-ws	Triple frame for flat pushbuttons white	EAN 4010312904442	**4,30 €/pc.**
R3F-rw	Triple frame for flat pushbuttons pure white	EAN 4010312904459	**4,30 €/pc.**
R3F-wg	Triple frame for flat pushbuttons pure white glossy	EAN 4010312904480	**4,30 €/pc.**
R3F-sz	Triple frame for flat pushbuttons black	EAN 4010312904473	**4,30 €/pc.**
R3F-an	Triple frame for flat pushbuttons anthracite	EAN 4010312904503	**4,30 €/pc.**
R3F-al	Triple frame for flat pushbuttons coated/aluminium paint	EAN 4010312905760	**11,50 €/pc.**

Recommended retail prices excluding VAT.

R-, R2- and R3-



Triple frame R3 with
FT4, BLA and DSS+SDO

Single frame R, 80x80 mm external dimensions, double frame R2, 80x151 mm external dimensions, and triple frame R3, 80x222 mm external dimensions.

Internal frame dimensions 55x55 mm, 12 mm high.
For the pushbutton and touch button ranges 55x55 mm and 50x50 mm.

R-ws	Single frame for pushbuttons white	EAN 4010312902356	**3,90 €/pc.**
R-rw	Single frame for pushbuttons pure white	EAN 4010312902370	**3,90 €/pc.**
R-wg	Single frame for pushbuttons pure white glossy	EAN 4010312902400	**3,90 €/pc.**
R-sz	Single frame for pushbuttons black	EAN 4010312902394	**3,90 €/pc.**
R-an	Single frame for pushbuttons anthracite	EAN 4010312902424	**3,90 €/pc.**
R-al	Single frame for pushbuttons coated/aluminium paint	EAN 4010312902363	**4,70 €/pc.**

R2-ws	Double frame for pushbuttons white	EAN 4010312903681	**4,10 €/pc.**
R2-rw	Double frame for pushbuttons pure white	EAN 4010312903704	**4,10 €/pc.**
R2-wg	Double frame for pushbuttons pure white glossy	EAN 4010312903728	**4,10 €/pc.**
R2-sz	Double frame for pushbuttons black	EAN 4010312903698	**4,10 €/pc.**
R2-an	Double frame for pushbuttons anthracite	EAN 4010312903711	**4,10 €/pc.**
R2-al	Double frame for pushbuttons coated/aluminium paint	EAN 4010312903742	**8,90 €/pc.**

R3-ws	Triple frame for pushbuttons white	EAN 4010312903766	**4,30 €/pc.**
R3-rw	Triple frame for pushbuttons pure white	EAN 4010312903780	**4,30 €/pc.**
R3-wg	Triple frame for pushbuttons pure white glossy	EAN 4010312903803	**4,30 €/pc.**
R3-sz	Triple frame for pushbuttons black	EAN 4010312903773	**4,30 €/pc.**
R3-an	Triple frame for pushbuttons anthracite	EAN 4010312903797	**4,30 €/pc.**
R3-al	Triple frame for pushbuttons coated/aluminium paint	EAN 4010312903827	**11,50 €/pc.**

Recommended retail prices excluding VAT.

BLF-



Blind cover BLF for R1F, R2F and R3F.

An attachment frame BRF, a mounting plate HP and an adhesive foil are enclosed.

The blind cover snaps flush in the frame after the mounting plate, frame and attachment frame are fitted.

BLF-ws	Blind cover BLF for R1F, R2F and R3F white	EAN 4010312904213	**3,10 €/pc.**
BLF-rw	Blind cover BLF for R1F, R2F and R3F pure white	EAN 4010312904237	**3,10 €/pc.**
BLF-wg	Blind cover BLF for R1F, R2F and R3F pure white glossy	EAN 4010312904268	**3,10 €/pc.**
BLF-sz	Blind cover BLF for R1F, R2F and R3F black	EAN 4010312904251	**3,10 €/pc.**
BLF-an	Blind cover BLF for R1F, R2F and R3F anthracite	EAN 4010312904282	**3,10 €/pc.**
BLF-al	Blind cover BLF for R1F, R2F and R3F coated/aluminium paint	EAN 4010312905791	**5,50 €/pc.**

BLA55-



Blind cover BLA55 for R, R2 and R3 as well as all Q frames.

An attachment frame BRF, a mounting plate HP and an adhesive foil are enclosed.

The blind cover snaps flush in the frame after the mounting plate, frame and attachment frame are fitted.

BLA55-ws	Blind cover BLA55 for R, R2 and R3 white	EAN 4010312905869	**3,10 €/pc.**
BLA55-rw	Blind cover BLA55 for R, R2 and R3 pure white	EAN 4010312905883	**3,10 €/pc.**
BLA55-wg	Blind cover BLA55 for R, R2 and R3 pure white glossy	EAN 4010312905913	**3,10 €/pc.**
BLA55-sz	Blind cover BLA55 for R, R2 and R3 black	EAN 4010312905906	**3,10 €/pc.**
BLA55-an	Blind cover BLA55 for R, R2 and R3 anthracite	EAN 4010312905937	**3,10 €/pc.**
BLA55-al	Blind cover BLA55 for R, R2 and R3 coated/aluminium paint	EAN 4010312905876	**5,50 €/pc.**

BLA-



Blind cover BLA for R, R2 and R3 as well as all Q frames.

An intermediate frame ZR (same colour), a mounting base HP and one adhesive foil come with the blind cover.

The blanking plate is flush with the frame and is engaged in the intermediate frame after fitting the retaining plate, the frame and the intermediate frame ZR.

BLA-ws	Blind cover BLA for R, R2 and R3 white	EAN 4010312903926	**3,10 €/pc.**
BLA-rw	Blind cover BLA for R, R2 and R3 pure white	EAN 4010312903940	**3,10 €/pc.**
BLA-wg	Blind cover BLA for R, R2 and R3 pure white glossy	EAN 4010312903964	**3,10 €/pc.**
BLA-sz	Blind cover BLA for R, R2 and R3 black	EAN 4010312903933	**3,10 €/pc.**
BLA-an	Blind cover BLA for R, R2 and R3 anthracite	EAN 4010312903957	**3,10 €/pc.**
BLA-al	Blind cover BLA for R, R2 and R3 coated/aluminium paint	EAN 4010312903988	**6,30 €/pc.**

Recommended retail prices excluding VAT.

DSS+SDOF-



**German Fused Safety Socket DSS with socket outlet front SDOF.
With increased shock protection.**

The socket base DSS bearing the VDE sign has screw terminals.
Fitted in 63x63 mm frames R1F, R2F and R3F.

DSS+SDOF-ws	DSS with socket outlet front white	EAN 4010312311295	**5,70 €/pc.**
DSS+SDOF-rw	DSS with socket outlet front pure white	EAN 4010312311318	**5,70 €/pc.**
DSS+SDOF-wg	DSS with socket outlet front pure white glossy	EAN 4010312311349	**5,70 €/pc.**
DSS+SDOF-sz	DSS with socket outlet front black	EAN 4010312311332	**5,70 €/pc.**
DSS+SDOF-an	DSS with socket outlet front anthracite	EAN 4010312311363	**5,70 €/pc.**
DSS+SDOF-al	DSS with socket outlet front coated/aluminium paint	EAN 4010312311301	**12,90 €/pc.**

DSS+SDO55-



**German Fused Safety Socket DSS with socket outlet front SDO55.
With increased shock protection.**

The socket base DSS bearing the VDE sign has screw terminals.
Fitted in 55x55 mm frames R, R2 and R3 as well as all Q frames.

DSS+SDO55-ws	DSS with socket outlet front white	EAN 4010312310830	**5,70 €/pc.**
DSS+SDO55-rw	DSS with socket outlet front pure white	EAN 4010312310854	**5,70 €/pc.**
DSS+SDO55-wg	DSS with socket outlet front pure white glossy	EAN 4010312310885	**5,70 €/pc.**
DSS+SDO55-sz	DSS with socket outlet front black	EAN 4010312310878	**5,70 €/pc.**
DSS+SDO55-an	DSS with socket outlet front anthracite	EAN 4010312310908	**5,70 €/pc.**
DSS+SDO55-al	DSS with socket outlet front coated/aluminium paint	EAN 4010312310847	**12,90 €/pc.**

DSS+SDO-



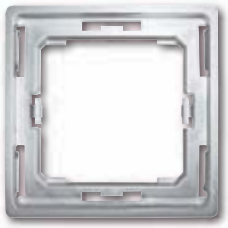
**German Fused Safety Socket DSS with socket outlet front SDO.
With increased shock protection.**

The socket base DSS bearing the VDE sign has screw terminals.
Fitted in 55x55 mm frames R, R2 and R3 as well as all Q frames using the enclosed socket intermediate frame SZR.

DSS+SDO-ws	DSS with socket outlet front white	EAN 4010312304181	**5,70 €/pc.**
DSS+SDO-rw	DSS with socket outlet front pure white	EAN 4010312304310	**5,70 €/pc.**
DSS+SDO-wg	DSS with socket outlet front pure white glossy	EAN 4010312304211	**5,70 €/pc.**
DSS+SDO-sz	DSS with socket outlet front black	EAN 4010312304204	**5,70 €/pc.**
DSS+SDO-an	DSS with socket outlet front anthracite	EAN 4010312304228	**5,70 €/pc.**
DSS+SDO-al	DSS with socket outlet front coated/aluminium paint	EAN 4010312304198	**12,90 €/pc.**

Recommended retail prices excluding VAT.

ZR-



Intermediate frame ZR for wireless pushbuttons FT4, FT4G and FT2S.

The scope of supply of the wireless pushbuttons FT4, FT4G and FT2S comprises one intermediate frame ZR in the same colour. For colour combinations, the intermediate frame ZR is available as a 5-piece set.

ZR-ws	5 intermediate frames white	EAN 4010312902288	**4,90 €/pc.**
ZR-rw	5 intermediate frames pure white	EAN 4010312902301	**4,90 €/pc.**
ZR-sz	5 intermediate frames black	EAN 4010312902325	**4,90 €/pc.**
ZR-an	5 intermediate frames anthracite	EAN 4010312902332	**4,90 €/pc.**
ZR-al	5 intermediate frames coated/aluminium paint	EAN 4010312902295	**8,90 €/pc.**

SZR-



Socket intermediate frame SZR for the socket outlet front SDO.

The scope of supply of socket outlet front SDO comprises one socket intermediate frame SZR in the same colour. For colour combinations, the socket intermediate frame SZR is available as a 5-piece set.

SZR-ws	5 socket intermediate frames white	EAN 4010312903612	**4,90 €/pc.**
SZR-rw	5 socket intermediate frames pure white	EAN 4010312903858	**4,90 €/pc.**
SZR-sz	5 socket intermediate frames black	EAN 4010312903841	**4,90 €/pc.**
SZR-an	5 socket intermediate frames anthracite	EAN 4010312903865	**4,90 €/pc.**
SZR-al	5 socket intermediate frames coated/aluminium paint	EAN 4010312903872	**8,90 €/pc.**

Recommended retail prices excluding VAT.

FT55R-



Wireless pushbutton with rocker (without frame)



Wireless pushbutton with double rocker (without frame)

Wireless pushbutton internal frame dimensions 55x55 mm with radius, 15 mm high. Generates the power for wireless telegrams itself when the button is pressed, therefore there is no connecting wire and no standby loss.

For Busch Reflex and Duro cover frames.

The scope of supply comprises a rocker, a double rocker, an attachment frame, a mounting base (all same colour), the wireless module and one adhesive foil.

Wireless pushbuttons with one rocker can transmit two evaluable signals: press rocker up and press rocker down. Wireless pushbuttons with double rocker can transmit four evaluable signals: press two rockers up or down.

The mounting base can be screwed onto a flat surface or glued to the wall, on glass or on furniture using the enclosed adhesive foil. Use the sleeves in the 55 mm socket box forscrew mounting. Then the **wireless switch lighting FTB** can be snapped into the mounting plate from the rear.

The double rocker is snapped onto the wireless module at the factory. If the double rocker is replaced by the large rocker, remove the rocker halves by pulling off to the front. Do not bend towards the middle. Then snap the large rocker so that the markings 0 and I on the back line up with the same markings on the wireless module.

Adhesion: First adhere the set *comprising the mounting base, frame and attachment frame* - with the latches pointing at the top and bottom. Then snap on the set *comprising the wireless module and rocker* - with the marking 0 on the back always pointing up.

Before screwing, remove the mounting base from the frame and the attachment frame. To do this, press the latches on the mounting base outwards. Then screw the mounting base - with the latches at top and bottom -, snap on the frame with the attachment frame and snap on the set *comprising the wireless module and rocker* - with the marking 0 on the back always pointing to the top.

We recommend sheet metal countersunk screws 2.9x25 mm, DIN 7982 C, for screw connections. Both with rawl plugs 5x25 mm and with 55 mm switch boxes. See Accessories on page Z-6.

FT55R-white	Wireless pushbutton without battery or wire, without frame	EAN 4010312313985	**40,70 €/pc.**
FT55R-alpine white	Wireless pushbutton without battery or wire, without frame	EAN 4010312313992	**40,70 €/pc.**

FT55R+LGI-



Wireless pushbutton with rocker (without frame)



Wireless pushbutton with double rocker (without frame)

Wireless pushbutton internal frame dimensions 55x55 mm with radius, 15 mm high. Generates the power for wireless telegrams itself when the button is pressed, therefore there is no connecting wire and no standby loss. Individual laser engraving LGI with text according to customer specifications.

For Busch Reflex and Duro cover frames.

The scope of supply comprises a rocker, a double rocker, an attachment frame, a mounting base (all same colour), the wireless module and one adhesive foil.

Function, switch lighting and montage see FT55R-.

FT55R+LGI-white	Wireless pushbutton without battery or wire, without frame - rocker and double rocker laser engraved individually	EAN 4010312314005	**50,30 €/pc.**
FT55R+LGI-alpine white	Wireless pushbutton without battery or wire, without frame - rocker and double rocker laser engraved individually	EAN 4010312314012	**50,30 €/pc.**

Recommended retail prices excluding VAT.

FT4CH-



Wireless pushbutton with intermediate frame and rocker (without frame)



Wireless pushbutton with intermediate frame and double rocker (without frame)

Rockers laser engraved page 1-29.

Wireless pushbutton, for internal frame dimensions 60x60 mm, 15 mm high. Generates the power for wireless telegrams itself when the button is pressed, therefore there is no connecting wire and no standby loss.

For Swiss cover frames from ABB Normelec, Feller and Hager.

The scope of supply comprises one large rocker, one double rocker, one intermediate frame (all same colour), the mounting base, the wireless module and one adhesive foil.

Wireless pushbuttons with one rocker can transmit two evaluable signals: press rocker up and press rocker down. Wireless pushbuttons with double rocker can transmit four evaluable signals: press two rockers up or down.

The mounting base can be screwed onto a flat surface or glued to the wall, on glass or on furniture using the enclosed adhesive foil. Use the sleeves in the 55 mm socket box for screw mounting. Then the **wireless switch lighting FTB** can be snapped into the mounting plate from the rear.

The double rocker is snapped onto the wireless module at the factory. If the double rocker is replaced by the large rocker, remove the rocker halves by pulling off to the front. Do not bend towards the middle. Then snap the large rocker so that the markings 0 and I on the back line up with the same markings on the wireless module.

Adhesion: First adhere *the mounting base and intermediate frame* - with the latches pointing at the top and bottom. Then snap on the set *comprising the wireless module and rocker* - with the marking 0 on the back always pointing up.

Before screwing, remove the mounting base from the intermediate frame.

To do this, press the latches on the mounting base outwards. Then screw the mounting base - with the latches at top and bottom -, snap on the frame with the intermediate frame and snap on the set *comprising the wireless module and rocker* - with the marking 0 on the back always pointing to the top.

We recommend sheet metal countersunk screws 2.9x25 mm, DIN 7982 C, for screw connections. Both with rawl plugs 5x25 mm and with 55 mm switch boxes. See Accessories on page Z-6.

FT4CH-ws	Wireless pushbutton without battery or wire, without frame white (61)	EAN 4010312300978	**40,70 €/pc.**
FT4CH-hg	Wireless pushbutton without battery or wire, without frame light grey (65)	EAN 4010312300985	**40,70 €/pc.**
FT4CH-sz	Wireless pushbutton without battery or wire, without frame black (60)	EAN 4010312300992	**40,70 €/pc.**

BLA-CH-



(without frame)

Blind cover BLA-CH for internal frame dimensions 60x60 mm.

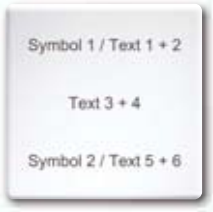
Supplied colours same as for pushbutton FT4CH.

An intermediate frame ZR-CH (same colour) and a mounting base HP-CH come with the blind cover. The blanking plate is flush with the frame and is engaged in the intermediate frame after fitting the mounting base, the frame and the intermediate frame.

BLA-CH-ws	Blind cover white (61), without frame	EAN 4010312904053	**5,10 €/pc.**
BLA-CH-hg	Blind cover light grey (65), without frame	EAN 4010312904060	**5,10 €/pc.**
BLA-CH-sz	Blind cover black (60), without frame	EAN 4010312904077	**5,10 €/pc.**

Recommended retail prices excluding VAT.

W + DW



Rockers and double rockers laser engraved.

For all pushbuttons and hand-held transmitters we provide rockers and double rockers offered in all colors and hand-held transmitters with laser engraving.
The additional title +2P will do for each arrow top (up) and bottom (down).
The additional title +I0 will do for I (=on) top and 0 (=off) down.
The additional title +0I will do for 0 (=off) top and I (=on) down.
Other prints with a maximum of 6 lines must be characterized and then we engrave it in Arial font. Maximum of two lines at the top, middle and bottom.
If we receive an E-mail to LGI@eltako.de with an Adobe Illustrator or Corel Draw file with the extension .ai or .cdr, we engrave individual customer requirements.

Rockers:
W-FT4F/4GF/2SF, W-FT55/55G/55S, W-FT4/4G/2S, W-FMT55/2-, W-FT4CH, W-FHS/FMH2

add. nomenclature ...+0I



add. nomenclature ...+2P



according to individual customer specifications



Double rockers:
DW-FT4F/4GF, DW-FT55/55G, DW-FT4/4G, DW-FMT55/4-, DW-FHS, DW-FHS/FMH4

add. nomenclature ...+I0



add. nomenclature ...+2P



according to individual customer specifications



Rockers:
W+HWG-FFT55Q

according to individual customer specifications



Double rockers:
DW-FF8

add. nomenclature ...+2P



according to individual customer specifications



Double rockers:
DW-FT2SF, DW-FT55S, DW-FT2S

add. nomenclature ...+I0



add. nomenclature ...+2P



according to individual customer specifications



W-FFT55Q	Rocker for wireless flat pushbuttons ws/rw/wg/sz/an/al	EAN 4010312906255	**5,90 €/pc.**
HWG-FFT55Q	High rocker for wireless flat pushbuttons ws/rw/wg/sz/an/al	EAN 4010312906439	**6,30 €/pc.**
W-FT4F/4GF/2SF	Rocker for wireless flat pushbuttons ws/rw/wg/sz/an/al	EAN 4010312906262	**5,90 €/pc.**
DW-FT4F/4GF/2SF	Double rocker for wireless flat pushbuttons ws/rw/wg/sz/an/al	EAN 4010312906279	**6,30 €/pc.**
W-FT55/55G/55S	Rocker for wireless pushbuttons 55x55mm ws/rw/wg/sz/an/al	EAN 4010312906286	**5,90 €/pc.**
DW-FT55/55G/55S	Double rocker for wireless pushbuttons 55x55mm ws/rw/wg/sz/an/al	EAN 4010312906293	**6,30 €/pc.**
W-FT4/4G/2S	Rocker for wireless pushbuttons with intermediate frame ws/rw/wg/sz/an/al	EAN 4010312906309	**5,90 €/pc.**
DW-FT4/4G/2S	Double rocker for wireless pushbuttons with intermediate frame ws/rw/wg/sz/an/al	EAN 4010312906316	**6,30 €/pc.**
W-FMT55/2	Rocker for wireless mini pushbuttons ws/rw/wg/sz/an/al	EAN 4010312906323	**5,90 €/pc.**
DW-FMT55/4	Double rocker for wireless mini pushbuttons ws/rw/wg/sz/an/al	EAN 4010312906330	**6,30 €/pc.**
W-FT4CH	Rocker for wireless pushbuttons Swiss Design ws(61)/hg(65)/sz(60)	EAN 4010312906347	**6,30 €/pc.**
DW-FT4CH	Double rocker for wireless pushbuttons Swiss Design ws(61)/hg(65)/sz(60)	EAN 4010312906385	**6,70 €/pc.**
W-FHS/FMH2	Rocker for wireless hand-held transmitters and mini hand-held transmitters FMH2 ws/rw/wg/sz/an/al	EAN 4010312906354	**5,90 €/pc.**
DW-FHS/FMH4	Double rocker for wireless hand-held transmitters and mini hand-held transmitters FMH4 ws/rw/wg/sz/an/al	EAN 4010312906361	**6,30 €/pc.**
DW-FF8	Double rocker for wireless remote control anthracite-soft paint	EAN 4010312906378	**6,30 €/pc.**

Recommended retail prices excluding VAT.



Universal remote control

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UFB-Harmony One+E



LOGITECH
Harmony One+
with 2" colour display

Control Eltako wireless actuators and entertainment electronics with only one remote control!

LOGITECH Harmony One+ universal remote control for almost all entertainment electronics devices. Additionally with 28 channels plus one 4-way scene control for the Eltako Wreless Building.

This universal remote control not only replaces 14 single remote controls, but, **when used together with a wireless infrared converter FIW55 or FIW-USB,** converts infrared telegrams into wireless telegrams for the Eltako wireless network.

This remote control is supported by data records for almost all commercially available electronic entertainment equipment of both old and recent date. The data records are available online for downloading. For this reason, this universal remote control very easily replaces all the single remote controls in a room.

Before shipment, we load a special Eltako FIW data record in the original Harmony One+ remote control. These infrared signals are converted into wireless telegrams by a wireless infrared converter FIW and transmitted to the Eltako wireless network.
This data record can be loaded by any owner of a Harmony One backed by the enclosed Logitech User Manual. The data record is in the Logitech menu from equipment manufacturer Eltako and is named FIW55.

If you download for entertainment electronic equipment, also select the FIW data record, otherwise it is deleted in the UFB.

An actuator can be controlled by each of the 28 channels, e.g. for lighting, blinds, awnings and roller shutters as described with the infrared converters FIW55 and FIW-USB.

WEEE registration number DE 52635780

UFB-Harmony One+E	Logitech universal remote control	EAN 4010312304266	**167,00 €/pc.**

Recommended retail prices excluding VAT.

FIW-USB

min



Wireless infrared converter with USB port. Only 0.05 watt standby loss.

Either connect to a device with power supply to the USB socket or use a USN charger for mains voltage. USB plug Type A with 2 m connecting cable.

The wireless infrared converter converts the predefined infrared telegrams of the universal remote control UFB-Harmony One into wireless telegrams for the Eltako wireless network. Otherwise it has no function of its own.

The downstream wireless actuators are taught in and then controlled using the keys on the universal remote control. The green LED on the FIW indicates every detected infrared telegram.

One actuator can be controlled by each of the max 32 channels e.g. for lighting, blinds, awnings and roller shutters.

In as-delivered state, the FIW sends a message every time one of the numeric buttons on the UFB is clicked. This permits the teach-in of 10 rapid channels using the numeric buttons.

If additional channels are required, switch over to the 'double-click' function by using the key sequence 7 and 3 on the UFB within 10 seconds after switching on the FIW power supply.
In this function an additional 10 channels 00, 11, 22, 33 etc. up to 99 can be taught-in.

Press the key sequence 9 and 1 within 10 seconds after switching on the power supply to reset to single-click.

The numeric buttons in the actuators can be taught-in either as direction switches or universal switches. Dim function with up and down arrow buttons in the navigation cross.

When a numeric button in the associated actuator is taught-in as direction button, first select the channel by pressing the numeric button when the device is in service, then control by pressing the up and down arrow buttons in the navigation cross.

Another 4 channels can be set to the + and - of the volume and channel buttons, e.g. for the central control of lighting and shading.

A further 3 direction buttons can be taught-in directly using the left and right buttons in the navigation cross, the fast forward and fast reverse buttons and the buttons for forward skip and reverse skip.

In addition, the four labelled buttons in the display with the colours red, green, yellow and blue are available as scene buttons for lighting or shading. You can change their labels using the enclosed CD and a Logitech Internet access. The central control signals ON/OFF or UP/DOWN can also be taught-in here as scenes and labelled accordingly.

WEEE registration number DE 30298319

FIW-USB	Wireless infrared converter with USB port	EAN 4010312311158	**85,80 €/pc.**

Recommended retail prices excluding VAT.

FIW55-

min



Wireless infrared converter for individual fitting or integration in the 55x55 mm and 63x63 mm switch system. Only 0.4 watt standby loss.

Power supply 230 V.

The scope of supply includes a frame R, an intermediate frame ZR in the same colour and a mounting plate. In addition, an intermediate frame ZRF in the same colour is supplied for installation in an existing frame R1F, R2F or R3F for flat pushbuttons.

A 20 cm long wire is located at the rear for the 230 V power connection, black (L) and blue (N). Otherwise no further installation depth is required behind the mounting plate.

We recommend sheet metal countersunk screws 2.9x25 mm, DIN 7982 C, for screw connections on 55 mm switch boxes. See Accessories on page Z-6.

The wireless infrared converter converts the predefined infrared telegrams of the universal remote control UFB-Harmony One into wireless telegrams for the Eltako wireless network. Otherwise it has no function of its own.

The downstream wireless actuators are taught in and then controlled using the keys on the universal remote control. The green LED on the FIW indicates every detected infrared telegram.

One actuator can be controlled by each of the max 32 channels e.g. for lighting, blinds, awnings and roller shutters.

In as-delivered state, the FIW sends a message every time one of the numeric buttons on the UFB is clicked. This permits the teach-in of 10 rapid channels using the numeric buttons.

If additional channels are required, switch over to the "double-click" function by using the key sequence 7 and 3 on the UFB within 10 seconds after switching on the FIW power supply.
In this function an additional 10 channels 00, 11, 22, 33 etc. up to 99 can be taught-in.

Press the key sequence 9 and 1 within 10 seconds after switching on the power supply to reset to single-click.

The numeric buttons in the actuators can be taught-in either as direction switches or universal switches. Dim function with up and down arrow buttons in the navigation cross.

When a numeric button in the associated actuator is taught-in as direction button, first select the channel by pressing the numeric button when the device is in service, then control by pressing the up and down arrow buttons in the navigation cross.

Another 4 channels can be set to the + and - of the volume and channel buttons, e.g. for the central control of lighting and shading.

A further 3 direction buttons can be taught-in directly using the left and right buttons in the navigation cross, the fast forward and fast reverse buttons and the buttons for forward skip and reverse skip.

In addition, the four labelled buttons in the display with the colours red, green, yellow and blue are available as scene buttons for lighting or shading. You can change their labels using the enclosed CD and a Logitech Internet access. The central control signals ON/OFF or UP/DOWN can also be taught-in here as scenes and labelled accordingly.

FIW55-ws	Wireless infrared converter white	EAN 4010312303238	**88,90 €/pc.**
FIW55-rw	Wireless infrared converter pure white	EAN 4010312303252	**88,90 €/pc.**
FIW55-sz	Wireless infrared converter black	EAN 4010312303269	**88,90 €/pc.**
FIW55-an	Wireless infrared converter anthracite	EAN 4010312303283	**88,90 €/pc.**
FIW55-wg *	Wireless infrared converter pure white glossy	EAN 4010312303276	**88,90 €/pc.**
FIW55-al	Wireless infrared converter coated/aluminium paint	EAN 4010312308820	**97,70 €/pc.**

* The bottom of the housing is matt.

Recommended retail prices excluding VAT.

FF8-



Wireless remote control 185x50 mm, 17 mm high.

The batteryless remote control FF8 contains two identical wireless modules the same as the cordless wireless pushbuttons FT4 and has 2 double rockers. It can transmit 8 evaluable wireless telegrams.

The top is painted in aluminum and the bottom and the rockers have an anthracite-soft paint.

The rockers can be easily removed and replaced with laser engraved rockers.

Compared to the wireless pushbuttons and hand-held transmitters the wireless modules are rotated 90° to the left. Therefore the upper half of the rocker corresponds to the right half of the pushbutton and the hand-held transmitter.

This must be considered when teaching-in in wireless actuators.

If wireless modules will be exchanged, the label 0 has to be on the left.

Double rockers laser engraved page 1-29.



WEEE-registration number DE 30298319

FF8-al/an	Wireless remote control with 2 double rockers, painted aluminium top, bottom and rockers anthracite-soft paint	EAN 4010312303931	**99,90 €/pc.**

Recommended retail prices excluding VAT.

FHS8-



Wireless hand-held transmitter 154x50 mm, 16 mm high.

The batteryless hand-held transmitter FHS8 contains two identical wireless modules the same as the cordless wireless pushbuttons FT4 and has 2 double rockers. It can transmit 8 evaluable wireless telegrams.

This wireless hand-held transmitter can be attached to the wall, on glass or on furniture using an adhesive foil. Enclosed are 2 labels for the rear and 1 adhesive foil.

Double rockers laser engraved page 1-29.







WEEE registration number DE 30298319

FHS8-ws	Wireless hand-held transmitter white with 2 double rockers	EAN 4010312300145	**68,70 €/pc.**
FHS8-rw	Wireless hand-held transmitter pure white with 2 double rockers	EAN 4010312300862	**68,70 €/pc.**
FHS8-wg	Wireless hand-held transmitter pure white glossy with 2 double rockers	EAN 4010312300947	**68,70 €/pc.**
FHS8-sz	Wireless hand-held transmitter black with 2 double rockers	EAN 4010312300848	**68,70 €/pc.**
FHS8-an	Wireless hand-held transmitter anthracite with 2 double rockers	EAN 4010312300824	**68,70 €/pc.**
FHS8-al	Wireless hand-held transmitter coated/aluminium paint with 2 double rockers	EAN 4010312300282	**80,30 €/pc.**
FHS8-ac	Wireless hand-held transmitter anthracite/chrome with 2 double rockers; anthracite-soft painting	EAN 4010312300893	**80,30 €/pc.**

Recommended retail prices excluding VAT.

FHS12-



Wireless hand-held transmitter 154x50 mm, 16 mm high.

The batteryless hand-held transmitter FHS12 contains three identical wireless modules the same as the cordless wireless pushbuttons FT4 and has 3 double rockers. It can transmit 12 evaluable wireless telegrams.

This wireless hand-held transmitter can be attached to the wall, on glass or on furniture using an adhesive foil. Enclosed are 2 labels for the rear and 1 adhesive foil.

Double rockers laser engraved page 1-29.







WEEE registration number DE 30298319

FHS12-ws	Wireless hand-held transmitter white with 3 double rockers	EAN 4010312300312	**99,90 €/pc.**
FHS12-rw	Wireless hand-held transmitter pure white with 3 double rockers	EAN 4010312300343	**99,90 €/pc.**
FHS12-wg	Wireless hand-held transmitter pure white glossy with 3 double rockers	EAN 4010312300954	**99,90 €/pc.**
FHS12-sz	Wireless hand-held transmitter black with 3 double rockers	EAN 4010312300855	**99,90 €/pc.**
FHS12-an	Wireless hand-held transmitter anthracite with 3 double rockers	EAN 4010312300831	**99,90 €/pc.**
FHS12-al	Wireless hand-held transmitter coated/aluminium paint with 3 double rockers	EAN 4010312300329	**114,80 €/pc.**
FHS12-ac	Wireless hand-held transmitter anthracite/chrome with 3 double rockers; anthracite-soft painting	EAN 4010312300909	**114,80 €/pc.**

Recommended retail prices excluding VAT.

FMH8-



Wireless mini hand-held transmitter 45x85 mm, 18 mm high. Weighs only 60 grams.

The batteryless mini hand-held transmitter FMH8 contains the same wireless module as the wireless pushbuttons FT4 and has 8 pushbuttons. It can transmit 8 evaluable wireless telegrams. The housing is laser-engraved with the numerals 1 to 8.

WEEE registration number DE 30298319

FMH8+LGI-



Wireless mini hand-held transmitter 45x85 mm, 18 mm high. Weighs only 60 grams. Individual laser engraving LGI with text according to customer request.

The batteryless mini hand-held transmitter FMH8 contains the same wireless module as the wireless pushbuttons FT4 and has 8 pushbuttons. It can transmit 8 evaluable wireless telegrams. The housing is engraved by laser to customer specifications.

WEEE registration number DE 30298319

FMH8-rw	Wireless mini hand-held transmitter pure white, 8 signals	EAN 4010312311714	**69,50 €/pc.**
FMH8-an	Wireless mini hand-held transmitter anthracite, 8 signals	EAN 4010312311707	**69,50 €/pc.**
FMH8-al/an	Wireless mini hand-held transmitter, the top is painted in aluminum and the bottom and the pushbuttons have an anthracite-soft paint, 8 signals	EAN 4010312313282	**76,00 €/pc.**

FMH8+LGI-rw	Wireless mini hand-held transmitter pure white, 8 signals, laser engraved	EAN 4010312311721	**76,50 €/pc.**
FMH8+LGI-an	Wireless mini hand-held transmitter anthracite, 8 signals, laser engraved	EAN 4010312311752	**76,50 €/pc.**
FMH8+LGI-al/an	Wireless mini hand-held transmitter, the top is painted in aluminum and the bottom and the pushbuttons have an anthracite-soft paint, 8 signals, laser engraved	EAN 4010312313299	**83,70 €/pc.**

Recommended retail prices excluding VAT.

FMH2- and FMH2S-



**Wireless mini hand-held transmitter 43x43 mm, 16 mm high.
Weighs only 30 grams.**

The batteryless mini hand-held transmitter FMH2 contains the same wireless module as the cordless wireless pushbuttons FT4 and has 1 rocker. It can transmit 2 evaluable wireless telegrams. The rocker is laser engraved with 0 and I.

This wireless hand-held transmitter can be attached to the wall, on glass or on furniture using an enclosed adhesive foil.

The mini hand-held transmitter FMH2S is also prepared to attach a key ring.

The mini hand-held transmitter is supplied with the following engraving:
0 (= OFF) on upper part and I (= ON) on bottom part.

Rockers laser engraved page 1-29.





WEEE registration number DE 30298319

FMH2-ws	Wireless mini hand-held transmitter white, 2 signals, laser engraved 0 + I	EAN 4010312303450	**36,30 €/pc.**
FMH2-rw	Wireless mini hand-held transmitter pure white, 2 signals, laser engraved 0 + I	EAN 4010312303467	**36,30 €/pc.**
FMH2-wg	Wireless mini hand-held transmitter pure white glossy, 2 signals, laser engraved 0 + I	EAN 4010312303481	**36,30 €/pc.**
FMH2-sz	Wireless mini hand-held transmitter black, 2 signals, laser engraved 0 + I	EAN 4010312303474	**36,30 €/pc.**
FMH2-an	Wireless mini hand-held transmitter anthracite, 2 signals, laser engraved 0 + I	EAN 4010312303498	**36,30 €/pc.**
FMH2-al	Wireless mini hand-held transmitter coated/aluminium paint, 2 signals, laser engraved 0 + I	EAN 4010312305294	**40,70 €/pc.**

FMH2S-ws	Wireless mini hand-held transmitter white for key ring, 2 signals, laser engraved 0 + I	EAN 4010312303368	**38,50 €/pc.**
FMH2S-rw	Wireless mini hand-held transmitter pure white for key ring, 2 signals, laser engraved 0 + I	EAN 4010312303375	**38,50 €/pc.**
FMH2S-wg	Wireless mini hand-held transmitter pure white glossy for key ring, 2 signals, laser engraved 0 + I	EAN 4010312303399	**38,50 €/pc.**
FMH2S-sz	Wireless mini hand-held transmitter black for key ring, 2 signals, laser engraved 0 + I	EAN 4010312303382	**38,50 €/pc.**
FMH2S-an	Wireless mini hand-held transmitter anthracite for key ring, 2 signals, laser engraved 0 + I	EAN 4010312303405	**38,50 €/pc.**
FMH2S-al	Wireless mini hand-held transmitter coated/aluminium paint for key ring, 2 signals, laser engraved 0 + I	EAN 4010312305256	**42,90 €/pc.**

Recommended retail prices excluding VAT.

FMH4- and FMH4S-



**Wireless mini hand-held transmitter 43x43 mm, 16 mm high.
Weighs only 30 grams.**

The batteryless mini hand-held transmitter FMH4 contains the same wireless module as the cordless wireless pushbuttons FT4 and has 1 double rocker. It can transmit 4 evaluable wireless telegrams. The double rocker is laser engraved with 1, 2, 3 and 4.

This wireless hand-held transmitter can be attached to the wall, on glass or on furniture using an enclosed adhesive foil.

The mini hand-held transmitter FMH4S is also prepared to attach a key ring.

The mini hand-held transmitter is supplied with the following engraving:
'1' on upper part left, '2' on upper part right, '3' on bottom part left and '4' on bottom part right.

Double rockers laser engraved page 1-29.







WEEE registration number DE 30298319

FMH4-ws	Wireless mini hand-held transmitter white, 4 signals, laser engraved 1+2+3+4	EAN 4010312301029	**38,30 €/pc.**
FMH4-rw	Wireless mini hand-held transmitter pure white, 4 signals, laser engraved 1+2+3+4	EAN 4010312301036	**38,30 €/pc.**
FMH4-wg	Wireless mini hand-held transmitter pure white glossy, 4 signals, laser engraved 1+2+3+4	EAN 4010312301067	**38,30 €/pc.**
FMH4-sz	Wireless mini hand-held transmitter black, 4 signals, laser engraved 1+2+3+4	EAN 4010312301012	**38,30 €/pc.**
FMH4-an	Wireless mini hand-held transmitter anthracite, 4 signals, laser engraved 1+2+3+4	EAN 4010312301043	**38,30 €/pc.**
FMH4-al	Wireless mini hand-held transmitter coated/aluminium paint, 4 signals, laser engraved 1+2+3+4	EAN 4010312301975	**42,70 €/pc.**

FMH4S-ws	Wireless mini hand-held transmitter white for key ring, 4 signals, laser engraved 1+2+3+4	EAN 4010312301371	**40,50 €/pc.**
FMH4S-rw	Wireless mini hand-held transmitter pure white for key ring, 4 signals, laser engraved 1+2+3+4	EAN 4010312301562	**40,50 €/pc.**
FMH4S-wg	Wireless mini hand-held transmitter pure white glossy for key ring, 4 signals, laser engraved 1+2+3+4	EAN 4010312301586	**40,50 €/pc.**
FMH4S-sz	Wireless mini hand-held transmitter black for key ring, 4 signals, laser engraved 1+2+3+4	EAN 4010312301555	**40,50 €/pc.**
FMH4S-an	Wireless mini hand-held transmitter anthracite for key ring, 4 signals, laser engraved 1+2+3+4	EAN 4010312301579	**40,50 €/pc.**
FMH4S-al	Wireless mini hand-held transmitter coated/aluminium paint for key ring, 4 signals, laser engraved 1+2+3+4	EAN 4010312305270	**44,90 €/pc.**

Recommended retail prices excluding VAT.

FMH2S-wr



Wireless mini hand-held transmitter for calling systems 43x43 mm, 16 mm high. Weighs only 48 grams.

The mini hand-held transmitter FMH2S-wr without battery for calling systems has a pure white rocker with red lettering and a grey carry strap.

It transmits a wireless telegram to the Eltako wireless network each time you make a confirmation (by pressing on the red button).

When operated (by pressing on the red button) it transmits the same wireless telegram as a wireless pushbutton and can therefore be taught-in in actuators and the FVS software in the same way. If it will be taught-in in an actuator as 'central on' as an emergency call switch the emergency can only be received with another taught-in switch with 'central off'.

For display we recommend the universal display FUA55LED with 10 LEDs.

FMH2S-wr	Wireless mini hand-held transmitter with grey carry strap for calling systems, pure white with red lettering	EAN 4010312303337	**44,90 €/pc.**

Recommended retail prices excluding VAT.

FTK

IP 54



Wireless window/door contact 75x25x12 mm, pure white/silver grey/anthracite.

The batteryless window/door contact FTK powers itself from a solar cell and stores the energy for night operation.

A signal is transmitted when the contact is opened or closed.
Every 15 minutes a signal indicating the current status is also transmitted.

Adhesive foil mounting. **Protection class IP54, therefore suitable for outdoor mounting.**

Window/door contact dimensions lxwxh: 75x25x12 mm;
magnet dimensions lxwxh: 37x10x6 mm.

Solar-powered energy accumulator: For testing porposes or for operating the device, the FTK needs to be charged several hours at daylight or at artificial light. The device is then ready for immediate operation in compliance with the actuator operating instructions.

Here, the magnet need only be briefly halted at the point marked ■ after the actuator to be taught-in is activated.

After window/door contacts FTK are taught-in in switching actuators FSA12, it is possible to link up to 32 FTKs. Please refer to the actuator operating instructions.

When a wireless window/door contact FTK is taught-in in switching actuators FSB12, FSB61NP or FSB70, a lock-out protection is set up while the door is open and disables a Central Down command. Please refer to the actuator operating instructions.

After the window/door contacts FTK are taught-in in switching actuators FHK12, FHK61, FZK12, FZK61, FZK70 or FHK70, heating and air-conditioning equipment are switched off when windows are opened.

For more assignments, please see the teach-in list on page 2-28.

Both the window/door contact and the magnet have an approx. 10 mm long notch to mark the point where they must be located next to each other when the window is closed. They may not be spaced more than 5 mm apart.

The wireless sensor can be taught-in into the following actuators and the wireless visualization and control software:
F2L61, F2L70, F4H12, F4L12, FADS60, FGM, FHK12, FHK61, FHK70, FMZ12, FMZ61, FSB12, FSB61, FSB70, FSR12, FSR61, FSR70, FTN12, FTN61, FUA55LED, FUT55D, FZK12, FZK61, FZK70

FTK-rw	Wireless window/door contact pure white	EAN 4010312305010	**67,40 €/pc.**
FTK-si	Wireless window/door contact silver grey	EAN 4010312305171	**67,40 €/pc.**
FTK-an	Wireless window/door contact anthracite	EAN 4010312305164	**67,40 €/pc.**

Recommended retail prices excluding VAT.

FHF-



FHF-vw



FHF-al



FHF-em



FHFS-al

Wireless Hoppe 'SecuSignal' window handles with integrated wireless transmit module, no battery or cable required. Transmit wireless telegrams automatically when windows are opened, tilted or closed.

The scope of supply includes complete installation materials.

Suppliable with or without lock. Can be taught-in in many actuators according to the list below. Among other things up to 10 pieces with individual display into the wireless universal display FUA55LED.

The wireless sensor can be taught-in into the following actuators and the wireless visualization and control software:
F2L61, F2L70, F4H12, F4L12, FADS60, FGM, FHK12, FHK61, FHK70, FMZ12, FMZ61, FSB12, FSB61, FSB70, FSR12, FSR61, FSR70, FUA55LED, FUT55D, FZK12, FZK61, FZK70

FHF-vw	Window handle traffic-white	EAN 4010312304686	**63,80 €/pc.**
FHFS-vw	Window handle traffic-white with lock	EAN 4010312304693	**80,50 €/pc.**
FHF-al	Window handle handle aluminium steel	EAN 4010312304709	**64,50 €/pc.**
FHFS-al	Window handle aluminium steel with lock	EAN 4010312304716	**83,70 €/pc.**
FHF-em	Window handle stainless steel matt	EAN 4010312304723	**110,10 €/pc.**

Recommended retail prices excluding VAT.

FKF-



FKF-rw

Wireless card switch 80x80 mm external dimensions, with internal frame dimensions 63x63 mm, 27 mm high.

When the hotel key card in standard bank card format 86x54 mm is inserted and removed, a wireless telegram is sent over the Eltako wireless network.

The scope of supply comprises the two-part card guide in the same colour as frame R1F and an attachment frame BRF, one mounting base HP-KS, one wireless module with rocker and one adhesive foil.

Mounting

Secure the mounting plate by screwing or bonding. Engage the frame with the hook-in recesses at top with the attachment frame and snap in the transmitter module with the mark 0 pointing up. Insert the assembled card guide in the hook-in recesses of the frame and screw tight in the bottom of the mounting plate using the supplied screw.

Worn card guides can be easily replaced without changing the transmitter module.

We recommend sheet metal countersunk screws 2.9x25 mm, DIN 7982 C, for screw connections. Both with rawl plugs 5x25 mm and with 55 mm switch boxes. See Accessories on page Z-6.

Fitting actuators

The wireless timers for card switches FZK12+14, FZK61NP and **FZK70** were specially developed to activate the wireless card switch FKF. A release delay and a response delay are adjustable on these switching relays.

To switch higher loads than specified in the technical data, the actuator must switch a contactor. In this case do not activate the zero crossing circuit on the FZK12+14.

The wireless sensor can be taught-in into the following actuators and the wireless visualization and control software:
FGM, FLC61, FMS12/14, FMZ12/14, FMZ61, FSR12/14, FSR61, FSR70, FZK12/14, FZK61, FZK70

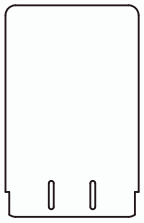
FKF-ws	Hotel key card switch white	EAN 4010312302606	**43,60 €/pc.**
FKF-rw	Hotel key card switch pure white	EAN 4010312302613	**43,60 €/pc.**
FKF-wg	Hotel key card switch pure white glossy	EAN 4010312302644	**43,60 €/pc.**

Recommended retail prices excluding VAT.

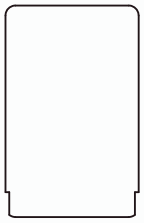
FKC-



FKC-rw



A: Guest card encoding KCG



B: Service card encoding KCS

Wireless card switch with encoding 80x80 mm external dimensions, with internal frame dimensions 63x63 mm, 27 mm high.

When the encoded key card in standard bank card format 86x54 mm is inserted and removed, a wireless telegram is sent over the Eltako wireless network.

The scope of supply comprises the two-part card guide in the same colour as frame R1F and an attachment frame BRF, one mounting base HP-KS, one wireless module and one adhesive foil.

Only **guest cards KCG** with 2 cut-outs and 2 coding slits can be inserted in the card reader slot. Please refer to Drawing A below. Normal cheque cards do not emit a wireless telegram since they cannot be inserted deep enough.

In addition, a second card can be encoded as **service card KCS** as shown in Drawing B. The wireless telegram deviates from the normal card and can therefore be evaluated by the FVS Software accordingly. For example, it detects and visualises the attendance of a service employee.

We deliver blank white cards encoded as KCG or KCS. Cards supplied printed can be provided by us with coding slits at the full price of the KCG or KCS.

Mounting

Secure the mounting plate by screwing or bonding. Engage the frame with the hook-in recesses at top with the attachment frame and snap in the transmitter module with the mark 0 pointing up. Insert the assembled card guide in the hook-in recesses of the frame and screw tight in the bottom of the mounting plate using the supplied screw.

We recommend sheet metal countersunk screws 2.9x25 mm, DIN 7982 C, for screw connections. Both with rawl plugs 5x25 mm and with 55 mm switch boxes. See Accessories on page Z-6.

Worn card guides can be easily replaced without changing the transmitter module.

Fitting actuators

The wireless timers for card switches FZK12+14, FZK61NP and FZK70 were specially developed to activate the wireless card switches FKF and FKC. A release delay and a response delay are adjustable on this 16A switching relay.

To switch higher loads than specified in the technical data, the actuator must switch a contactor. In this case, do not activate the zero cross contactor at the FZK12+14.

A guestcard KCG and service card KCS is enclosed free of charge to every FKC as a master for encoding.

The wireless sensor can be taught-in into the following actuators and the wireless visualization and control software:
FGM, FLC61, FMS12/14, FMZ12/14, FMZ61, FSR12/14, FSR61, FSR70, FZK12/14, FZK61, FZK70

KCG	Keycard white, unprinted, encoded as guest card	EAN 4010312906187	**2,00 €/pc.**
KCS	Keycard white, unprinted, encoded as service card	EAN 4010312906194	**2,00 €/pc.**
FKC-ws	Card switch with encoding white	EAN 4010312311622	**45,60 €/pc.**
FKC-rw	Card switch with encoding pure white	EAN 4010312311646	**45,60 €/pc.**
FKC-wg	Card switch with encoding pure white glossy	EAN 4010312311660	**45,60 €/pc.**

Recommended retail prices excluding VAT.

FZS-



FZS-rw

Wireless pull switch 80x80 mm external dimensions, with internal frame dimensions 63x63 mm, 22 mm high. With grey and red handle.

When the handle is pulled and released, a wireless telegram is sent to the Eltako wireless network.

The scope of supply includes the completely assembled pull switch, an unprinted grey handle, a white printed red handle and two screws and rawl plugs.

Fitting

First dismantle the fully assembled pull switch. To do this, remove the screw, unhook the cover and remove the intermediate frame together with the rocker and transmitter module by loosening the retaining bars at the top and bottom.

Fit the mounting plate by tightening the screws. Engage the frame together with the hook-in cut-outs at the top and the intermediate frame including the transmitter module and rocker with the rear ID 0 upwards. Insert the cover with the inserted cord into the hook-in cut-outs of the frame and screw tight into the retaining plate using the screw at the bottom. Shorten the cord to the required length, push it through the red or grey handle and secure it by a double knot.

Independent of position

The pull switch functions in any position, even when attached to the ceiling.

Matching actuators

The wireless pull switch transmits the same wireless telegrams when operated as a wireless pushbutton and can therefore be taught-in in actuators and the FVS software in the same way. If it will be taught-in in an actuator as 'central on' as an emergency call switch the emergency can only be received with another taught-in switch with 'central off'.

For display, we recommend use of a universal indicator FUA55LED with 10 LEDs.

The wireless sensor can be taught-in into the following actuators and the wireless visualization and control software:
FGM, FLC61, FMS12, FMZ12, FMZ61, FSR12, FSR61, FSR70, FZK12, FZK61, FZK70

FZS-ws	Pull switch white	EAN 4010312313053	**60,40 €/pc.**
FZS-rw	Pull switch pure white	EAN 4010312313060	**60,40 €/pc.**

Recommended retail prices excluding VAT.

FNT55

min



Wireless proximity pushbutton for surface mounting 84x84x30 mm or mounting in Q Design frames QRE, QRA or QRR. Power supply with batteries.

The scope of supply includes a frame QRR1, an attachment frame, a battery mounting plate and an adhesive foil.

In as-delivered state, the energy buffer is empty and has to be charged with two pieces of AAA batteries (not included in scope of delivery) for about 10 minutes before startup. The batteries last about 2 to 4 years.

The sensor requires no installation depth behind the mounting plate and can be screwed or stuck to any flat surface. An adhesive foil is supplied.

We recommend sheet metal countersunk screws 2.9x25 mm, DIN 7982 C, for screw connections. Both with rawl plugs 5x25 mm and with 55 mm switch boxes. See Accessories on page Z-6.

After mounting, the proximity pushbutton monitors the environmental capacitance, calibrates itself about 3 minutes and then responds to the approach of a hand or another part of the body from about 7 cm distance. In this case, it sends an ON telegram, like any other wireless pushbutton. If the detection zone is left, it sends an OFF telegram.

If the proximity pushbutton brings itself into another position, it needs about 3 minutes to recalibrate again.

If the proximity pushbutton will be permanently excited for more than 30 seconds, it considers this as a strong change of environmental capacitance, recalibrates itself and sends an OFF telegram.

FNT55-ws	Proximity pushbutton white	EAN 4010312314845	**103,50 €/pc.**
FNT55-rw	Proximity pushbutton pure white	EAN 4010312314469	**103,50 €/pc.**
FNT55-an	Proximity pushbutton anthracite	EAN 4010312314883	**103,50 €/pc.**
FNT55-sz	Proximity pushbutton black	EAN 4010312314890	**103,50 €/pc.**
FNT55-wg *	Proximity pushbutton pure white glossy	EAN 4010312314876	**103,50 €/pc.**
FNT55-al	Proximity pushbutton coated/aluminium paint	EAN 4010312314852	**110,90 €/pc.**

* The bottom of the housing is matt.

Recommended retail prices excluding VAT.

Compatible Design Frames 55x55 mm Internal Dimension (not for Wireless Flat Pushbuttons FFT55Q)

Series	Material	Colour variants
Berker		
S.1	Plastic, matt and glossy polar white similar to RAL 9010 white similar to RAL 1013	White glossy, polar white glossy, polar white matt, red glossy, anthracite matt
B.7 Glas	Glass, high gloss polar white matt similar to RAL 9010	Polar white
B.3	Metal, aluminium neutral anodised	Aluminium/polar white, aluminium/anthracite
B.1	Plastic, matt: polar white similar to RAL 9010; anthracite similar to RAL 7021 Matt, painted: aluminium similar to RAL 9006; blue metallic similar to RAL 5010 orange metallic similar to RAL 2011 green metallic special colour red metallic special colour	Polar white/polar white, anthracite/anthracite, aluminium/aluminium, polar white/blue metallic, polar white/orange metallic, polar white/green metallic, polar white/red metallic, polar white/aluminium, polar white/anthracite, anthracite/blue metallic, anthracite/orange metallic, anthracite/green metallic, anthracite/red metallic, anthracite/aluminium, aluminium/blue metallic, aluminium/orange metallic, aluminium/green metallic, aluminium/red metallic, aluminium/polar white, aluminium/anthracite
Elso		
JOY	Plastic	Pearl white, pure white
RIVA with combined frame 55	Plastic, glass, aluminium	Pearl white, pure white, stainless steel effect, aluminium effect
SCALA with combined frame 55	Plastic	Pearl white, pure white, stainless steel effect, aluminium effect
FASHION with combined frame 55	Plastic Thermal unbreakable	Pearl white, pure white
GIRA		
Standard 55	Thermoplastic	Cream white glossy, pure white glossy, pure white silky matt
Event	Thermoplastic	Pure white, aluminium colour, anthracite, opaque orange, opaque red, opaque amber, opaque dark brown, opaque white, opaque mint, opaque blue
E2	Thermoplastic	Pure white glossy, pure white silky matt, aluminium colour, anthracite
Esprit	Glass	Glass white, glass mint, glass black
Esprit	Aluminium E 1 EV1: ground anodised matt; brass: high gloss galvanised gold-plated; chrome: high gloss; wenge wood: wood	Aluminium, brass, chrome, wenge wood
TX_44	Thermoplastic	Pure white, anthracite, aluminium colour
Hager		
Kallysto pur/stil/art	Plastic glossy, aluminium, glass	Brilliant white, silver, anthracite, cream; aluminium nature brush-finished, aluminium anthracite brush-finished; glass white, glass mint, glass anthracite
Jung		
A 500	Thermoplastic, thermosetting plastic	Alpine white, aluminium
AS 500	Thermoplastic, thermosetting plastic	White, alpine white
A plus	Thermoplastic, thermosetting plastic, metal	White, alpine white, aluminium, anthracite-aluminium, blue-aluminium, sun yellow-aluminium, aluminium-alpine white, anthracite-alpine white, blue-alpine white, sun yellow-alpine white, bright chrome-aluminium, bright chrome-alpine white
A creation	Thermosetting plastic, glass	Thermosetting plastic: alpine white, aluminium, black Glass: black, red, alpine white, bluegrey, matt white, silver-coated
Merten		
M-SMART	Thermoplastic, thermosetting plastic	Thermoplastic brilliant: white glossy, polar white glossy, active white glossy; Thermoplastic noble matt: white, polar white Thermosetting plastic highly scratchproof: white, polar white
M-ARC	Thermoplastic, noble matt	White, polar white, sand, night blue, anthracite, aluminium
M-PLAN	Thermoplastic	Thermoplastic brilliant: white glossy, polar white glossy, active white glossy; Thermoplastic noble matt: white, polar white, anthracite, aluminium
M-PLAN	Safety glass 6 mm	Brilliant white, onyx black, diamond silver, sapphire blue, ruby red, mahogany brown
ATELIER-M	Thermoplastic	White, polar white, active white

[1] Not all colour variants can be supplied in Eltako design. Even same colour terms can slightly differ from each other.



Our colour range for wireless sensors



Not all sensors are available in all colours.
Please note the color names in the data sheets

Transmitter modules FSM12 and F8S12	2-0
Outdoor transmitter module FASM60 and transmitter module FSM61	2-1
Wireless energy meter transmitter module FSS12, wireless single-phase energy meter transmitter modules FWZ12 and FWZ61	2-2
Weather data transmitter module FWS61	2-4
Smoke alarm FRW	2-5
NEW Motion/brightness sensor FBH55 and FBH63AP	2-6
Motion/brightness sensor SR-MDSBAT	2-8
Outdoor motion/brightness sensor FABH63 and indoor brightness sensor FIH63AP	2-9
Outdoor brightness sensor FAH63 and FAH60	2-11
Outdoor twilight sensor FADS60	2-13
Wireless indoor humidity temperature sensor FIFT63AP and wireless outdoor humidity temperature sensor FAFT60	2-14
Contact temperature sensor SR65VFG	2-16
Cable temperature sensor SR65TF251	2-17
NEW Clock thermometer FUTH55D and small actuator FKS	2-18
NEW Temperature controller FTR55H and FTR55D	2-20
Temperature sensor FTF55	2-22
CO_2 sensors SR04CO2 and SR04CO2rHZ	2-23
NEW Multifunction room control units thanos LSR, SSR und LSRQ	2-24
Timer FSU55D with display	2-26
Wireless sensors temperature controller FTR55H-CH, FTR55D-CH, energy consumption indicator FEA55D-CH and timer FSU55D-CH, Swiss Design	2-27
Teach-in list: wireless sensors that can be taught-in in wireless actuators	2-28

FSM12-UC





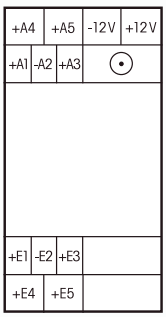
Wireless 2-fold transmitter module. With internal antenna. No standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting. 1 module = 18 mm wide, 58 mm deep.
The wireless transmitter module FSM12-UC has two channels and, like a wireless pushbutton, it can transmit wireless telegrams into the Eltako wireless building. A1 initiates a wireless telegram like 'press rocker above' of a wireless pushbutton with one rocker and A3 like 'press rocker below'. The telegram on opening the two control contacts is identical like 'release wireless pushbutton'.
Severel wireless transmitter modules must not be switched at the same time.
If the terminals A1 and A3 are connected with a bridge, the wireless telegram is transmitted from A3, as long as the conrol voltage is applied, e.g. for central commands with priority.
The universal control voltage processes control commands of 8 to 253 V AC or 10 to 230 V DC with periods lasting min. 0.2 seconds. Max. parallel capacitance (approx. length) of control lead at 230 V 0.06 µF. This corresponds to a length of approx. 200 meters.
No permanent power supply required, therefore no standby losses.

FSM12-UC	Wireless transmitter module	EAN 4010312300886	**51,30 €/pc.**

F8S12-12V DC





The enclosed small antenna can be replaced with a wireless antenna FA250 with magnetic base and cable.

Wireless 8-fold transmitter module, 8 control inputs for universal control voltage. With replaceable transmit antenna. If required, a wireless antenna FA250 can be connected. Only 0.5 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting. 2 modules = 36 mm wide, 58 mm deep.
The wireless transmitter module F8S12-UC has eight channels and, like wireless pushbuttons, it can transmit local and central control signals into the Eltako wireless network.
4 control inputs may be connected to different potentials since they are electrically isolated.
Control voltage 8 to 253 V AC or 10 to 230 V DC.
A 12 V DC voltage is supplied from a switching power supply unit FSNT12-12 V/12 W which has a width of only 1 module.
If two pushbuttons are defined as direction switch, the two pushbuttons must be taught-in as direction switches in an actuator. Control inputs are then defined in pairs for the direction 'ON', 'central ON', 'UP' and 'BRIGHTER' and control inputs 'OFF', 'central OFF', 'DOWN' and 'DARKER': A1/A3, A4/A5, E1/E3, E4/E5.
The LED flashes once when a wireless signal is transmitted.
Control current at 8/12/24 V AC/DC: 2.5/4/9 mA.
Control current at 230 V AC/DC (<5 s): 5 (100) mA.

F8S12-12V DC	Wireless 8-fold transmitter module	EAN 4010312302286	**74,60 €/pc.**

Recommended retail prices excluding VAT.

FASM60-UC

UC 8-253 V AC 10-230 V DC | IP 54



Wireless outdoor transmitter module 2 channels. LxWxH: 60x46x30 mm. With internal antenna. No standby loss.

The wireless transmitter module FASM60-UC has two channels and can transmit wireless pushbutton telegrams to the Eltako building wireless system. A1 initiates a wireless telegram, such as 'Press top rocker' for a wireless pushbutton with one rocker and A3 such as 'Press bottom rocker'. The telegram on opening the two control contacts is identical to 'Release wireless pushbutton'.

Severel wireless transmitter modules must not be switched at the same time.

There is a screw joint M12 at the bottom for the waterproof connection IP54.
Connection to a 5-fold inside terminal for the control input

+A1/-A2 and +A3/-A2. Loosen the 2 screws on the front and remove lid.

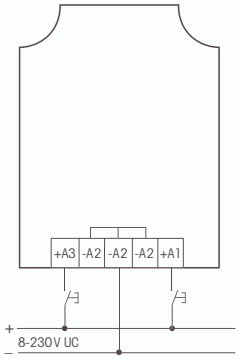
If the terminals A1 and A3 are connected with a bridge, the wireless telegram is transmitted once per minute by A3, provided the control voltage is applied, e.g. for central commands with priority.

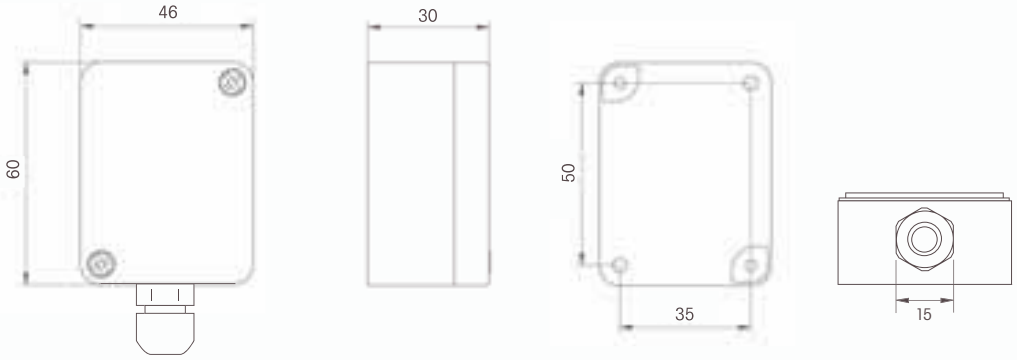
The universal control voltage processes control commands of 8 to 253 V AC or 10 to 230 V DC with periods lasting min. 0.2 seconds.

Max. parallel capacitance of the single control leads (separately installed) at 230 V 3 nF, this corresponds to a lenght of approx. 10 meters. Parallel control leads (jointly installed) at 230 V 0.5 nF, approx. 2 meters. Max. parallel capacitance (approx. length) of control lead at 12-24 V UC 0.03 µF, this corresponds to a lenght of approx. 100 meters.

No permanent power supply required, therefore no standby losses.

Typical connection

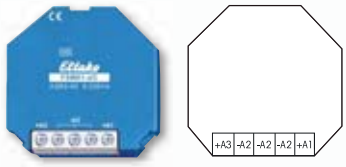




FASM60-UC	Outdoor transmitter module 2 channels	EAN 4010312311998	**57,40 €/pc.**

FSM61-UC

UC 8-253 V AC 10-230 V DC



Wireless 2-fold transmitter module. With internal antenna. No standby loss.

For installation. 45 mm long, 55 mm wide, 18 mm deep.
The wireless transmitter module FSM61-UC has two channels and can transmit wireless push-button telegrams to the Eltako building wireless system. A1 initiates a wireless telegram, such as 'Press top rocker' for a wireless pushbutton with one rocker and A3 such as 'Press bottom rocker'. The telegram on opening the two control contacts is identical to 'Release wireless pushbutton'.
Severel wireless transmitter modules must not be switched at the same time.
If the terminals A1 and A3 are connected with a bridge, the wireless telegram is transmitted once per minute by A3, provided the control voltage is applied, e.g. for central commands with priority.
The universal control voltage processes control commands of 8 to 253 V AC or 10 to 230 V DC with periods lasting min. 0.2 seconds. Max. parallel capacitance (approx. length) of control lead at 230 V 0.5 nF. This correspond to a length of approx. 2 meters.
No permanent power supply required, therefore no standby losses.

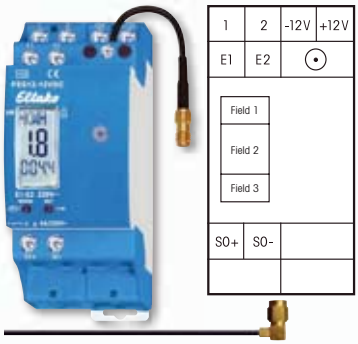
FSM61-UC	Wireless transmitter module	EAN 4010312300152	**49,60 €/pc.**

Recommended retail prices excluding VAT.

FSS12-12 V DC

min

Smart Metering see chapter 7



The enclosed small antenna can be replaced with a wireless antenna FA250 with magnetic base and cable.

Wireless energy meter transmitter module for connection to S0 interface of many single-phase energy meters and three-phase energy meters. Only 0.5 watt standby loss. With load shedding relay 1 NO contact potential free 4 A/250 V. With exchangeable antenna. If required, a wireless antenna FA250 can be connected.

Modular device for DIN-EN 60715 TH35 rail mounting. 2 modules = 36 mm wide, 58 mm deep.

The energy meter transmitter module FSS12 evaluates the signals from the energy meter S0 interface and transmits wireless telegrams containing consumption and meter reading to the Eltako wireless network for evaluation on a PC using the Visualisation and Control Software GFVS 3.0 and GFVS-Energy. On three-phase energy meters, the data sent includes normal rate (HT) or off-peak (NT) energy tariff data, provided the E1/E2 terminals on the three-phase energy meter are connected to E1/E2 on the FSS12. From production week 42/2012 also with adjustable pulse rate.

GFVS-Energy supports up to 100 transmitter modules and GFVS 3.0 up to 250 transmitter modules.

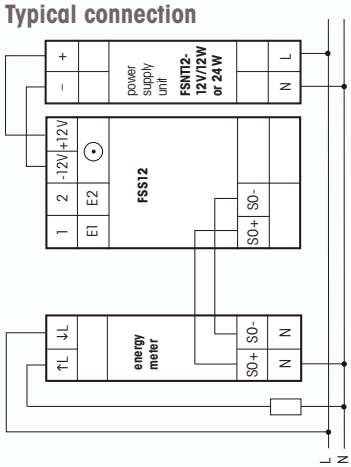
The 12 V DC supply voltage of the complete RS485 bus is mainly powered at 12 W or 24 W by a switch mode power supply unit FSNT12-12 V DC that is only 1 or 2 pitch units wide. If the relay of the FSS12 is switched on, a power of 0.6 watts is required.

The setting and display screen is subdivided into 3 fields:

- **Field 1:** The normal display is the unit of the meter reading currently displayed in Field 3. This alternates every 4 seconds with either kilowatt hours kWh (KWH in display) or megawatt hours MWh (MWH in display). The display in Field 1 is supplemented by a + sign after the reading to indicate that the off-peak tariff rate is applied to E1/E2.
- **Field 2:** Instantaneous values of energy consumption (active power) in watt (W) or kilowatt (kW). The left-pointing arrow in Field 1 indicates an automatic switchover from 0 to 99 W to 0.1 to 65 kW.
- **Field 3:** The meter reading is the normal display. Every 4 seconds the display alternates between 3 whole numbers and 1 decimal point (from 0.1 to 999.9 kWh) and 1 or max. 3 whole numbers (from 0 to 999 MWh). The meter reading is displayed without decimals in increments of 1 kWh with freely chosen pulse rates whose last digit is not 0.

Press the left button MODE to access setting mode. **Press the right button SET** to browse through the setting options, enter or edit settings as required and finally confirm by pressing MODE.

Typical connection



1. HT flashes to indicate **normal rate meter reading.** Confirm by pressing MODE again and MWH flashes. SET changes the meter reading from 0 to 999 in Field 3. Press SET briefly to increment by 1; hold down to increment rapidly. Release and press again to change direction. Confirm by pressing MODE even if nothing was entered.
2. KWH flashes and SET changes the meter reading from 0.1 to 999.9 in Field 3, as before with MWH. Also confirm the correct entry by pressing MODE.
3. NT flashes and the **off-peak meter reading** may be displayed as described under HT above.
4. S0 flashes and after confirmation with MODE **the number of S0 pulses (pulse rate) per kWh of the meter** is entered in field 3. This is indicated in the meter imprint. 0010, 0100, 0200, 0500, 0800, 1000 or 2000 are selected with SET. If MODE and SET are pressed simultaneously, S0+ flashes in the display and the pulse rate can be freely selected with SET. Confirm with MODE.
5. LRN flashes and after confirming by pressing MODE, a **wireless teach-in telegram** is transmitted by pressing SET. If a smart metering display is already installed, it is used to teach-in the transmitter ID, provided the receiver was set to LRN shortly before. To transmit further wireless teach-in telegrams, confirm the flashing LRN again by pressing MODE and transmit by pressing SET.
6. PSW flashes and after confirming by pressing MODE, press SET to set the **power threshold** from 0 to 60 kW for the load shedding relay NO contact and a corresponding wireless telegram. The left pointing arrow in Field 1 indicates kW. Confirm by pressing MODE.

In the setting 0.0, the relay contact closes after switching over from normal rate HT to off-peak NT. At the same time, a wireless telegram EIN (ON) is transmitted. When the device is switched over from NT to HT, AUS (OFF) is transmitted and the relay contact opens. With any other value from 1 to 60, the load shedding relay switches on when the set threshold value is overshot and switches off when the set threshold value is undershot at a hysteresis of 25%. At the same time, a wireless telegram EIN or AUS is transmitted.

Lock settings: Press MODE and SET together briefly and lock the flashing LCK in Field 1 by pressing SET. To unlock, press MODE and SET together for 2 seconds and confirm the flashing UNL in Field 1 by pressing SET.

Wireless telegrams: Within 20 seconds, a power telegram is sent if the power changes by minimum 10%. A switchover from HT to NT is transmitted immediately in the same way as a meter reading change. A full telegram comprising meter reading HT, meter reading NT and power is transmitted 20 seconds after the power supply is switched on and then every 10 minutes. The LED lights up briefly when a telegram is transmitted.

The power display in Field 2 depends on the number of S0 pulses per kWh of the meter. The minimum load displayed is 14 watts at 2000 pulses per kWh, 28 watts at 1000 pulses/kWh, 35 watts at 800 pulses/kWh, 56 watts at 500 pulses/kWh, 140 watts at 200 pulses/kWh, 280 watts at 100 pulses/kWh and 2800 watts at 10 pulses/kWh.

FSS12-12V DC	Wireless energy meter transmitter module	EAN 4010312301944	**79,80 €/pc.**

Recommended retail prices excluding VAT.

FWZ12-16A

min





Wireless single-phase energy meter transmitter module, maximum current 16A. Only 0.5 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.
1 module = 18mm wide, 58mm deep.
This single-phase energy meter measures active energy by means of the current between input and output and transmits the consumption and meter reading over the Eltako wireless network. Accuracy class B (1%).
Evaluation on the computer with Eltako Wireless Building Visualisation and Control Software GFVS or with energy consumption indicators FEA55LED or FEA55D. GFVS-Energy supports up to 100 transmitter modules and GFVS 3.0 up to 250 transmitter modules.
The internal power consumption of max. 0.5 watt active power is neither metered nor indicated.
Like all meters without PTB or MID approval in Germany, not approved to levy electricity charges.
1 phase conductor with a max. current up to 16A can be connected. The inrush current is 20mA. The consumption is saved to a non-volatile memory and is immediately available again after a power failure.
Wireless telegrams: A telegram is transmitted within 20 seconds if the power status changes by min. 10 percent. A change in meter reading is transmitted immediately. A full telegram comprising meter reading and power status is transmitted every 10 minutes.
When the power supply is switched on, a **teach-in telegram** is sent to teach in the associated energy consumption indicator.
If the L input and the L output were interchanged when hooked up, a normal rate (HT)/off-peak (NT) switchover telegram is transmitted to indicate the hook-up error.

FWZ12-16A	Wireless single-phase energy meter transmitter module	EAN 4010312303184	**74,80 €/pc.**

FWZ12-65A

min





Wireless single-phase energy meter transmitter module, maximum current 65A. Only 0.5 watt standby loss.

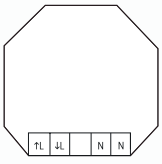
Modular device for DIN-EN 60715 TH35 rail mounting. 1 module = 18mm wide, 58mm deep.
This single-phase energy meter measures active energy by means of the current between input and output and transmits the consumption and meter reading over the Eltako wireless network. Accuracy class B (1%).
1 phase conductor with a max. current up to 65A can be connected. The inrush current is 40mA. The consumption is saved to a non-volatile memory and is immediately available again after a power failure.
Evaluation, internal power consumption and wireless telegrams see FWZ12-16A.

FWZ12-65A	Wireless single-phase energy meter transmitter module 65A	EAN 4010312311059	**80,80 €/pc.**

FWZ61-16A

min





Wireless single-phase energy meter transmitter module, maximum current 16A. Only 0.5 watt standby loss.

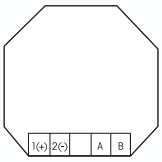
For installation. 45mm long, 55mm wide, 35mm deep. Accuracy class B (1%).
This single-phase energy meter measures active energy by means of the current between input and output and transmits the consumption and meter reading over the Eltako wireless network. Accuracy class B (1%).
1 phase conductor with a max. current up to 16A can be connected. The inrush current is 20mA. The consumption is saved to a non-volatile memory and is immediately available again after a power failure.
Evaluation, internal power consumption and wireless telegrams see FWZ12-16A.

FWZ61-16A	Wireless single-phase energy meter transmitter module	EAN 4010312302354	**71,80 €/pc.**

Recommended retail prices excluding VAT.

FWS61-24V DC





Wireless weather data transmitter module for the seven weather items sent by the multisensor MS. Only 0.3 watt standby loss.

For installation. 45 mm long, 55 mm wide, 18 mm deep.

Power (24 V DC) is supplied by the switch mode power supply unit FSNT61-24 V/6 W (33 mm deep, 45 mm long, 55 mm wide). This switching power supply unit simultaneously supplys the multisensor MS including the heating of the rain sensor.

It is possible to use a deep UP box for the two devices.

This weather data transmitter module receives the seven momentary readings of the weather items: brightness (from three cardinal points), twilight, wind, rain and ambient temperature by cable J-Y (ST) Y 2x2x0,8 from the multisensor MS attached to the outside of the building. The readings are sent in the form of wireless telegrams over the Eltako wireless network with the priorities listed below.

Evaluation is carried out by the FVS Wireless Building Visualisation and Control Software GFVS, the wireless multifunction sensor relay FMSR14, the wireless weather data display FWA55D and the wireless actuator FSB14.

When the supply voltage is applied, a teach-in telegram is sent immediately and two status telegrams containing the momentary values are sent approx. 60 seconds later. At least every 10 minutes, but also:

Brightness values West, South and East each from 0 to 150 kLux if a change of minimum 10% occurs.

Twilight values from 0 to 999 Lux if a change of minimum 10% occurs.

Wind speeds from 0 to 70m/s. From 4m/s to 16m/s, the momentary values are sent immediately 3 times at intervals of 1 second. After that, further value increases are sent within 20 seconds. Dropping wind speeds are sent progressively delayed by 20 seconds.

Rain values at the start are sent immediately 3 times. After the rain stops, a telegram is sent within 20 seconds.

Temperature values from -40.0°C to +80.0°C are sent every 10 minutes together with all the other values in a status telegram.

Monitoring multisensor function and line break. If the weather data message from multisensor MS is not sent for 5 seconds, the FWS61 immediately sends an alarm telegram which is repeated every 30 seconds. The alarm telegram can be taught-in as a switch telegram in an actuator to initiate further action as required. In addition, the two status telegrams containing the values brightness 0 Lux, twilight 0 Lux, temperature -40°C (frost), wind 70 m/s and rain are sent.

When a message is again detected from the multisensor MS, the alarm stops automatically.

FWS61-24V DC	Wireless weather data transmitter module	EAN 4010312301937	**58,60 €/pc.**

Multi sensor MS



The MS multi sensor sends the current weather details, including brightness (from three points of the compass), wind, rain and frost, to the weather data transmitter module FWS61 connected in series once per second. A standard telephone wire is sufficient as connecting lead: J-Y(ST)Y 2x2x 0,8 or equivalent. 100 m line length is permitted.
Solid plastic housing, LxWxH = 118x96x77 mm. Degree of protection IP44.
Temperature at mounting location -30°C to +50°C.
A power supply unit FSNT61-24V/6W is required for the power supply, including heating of the rain sensor. This simultaneously supplys the wireless weather data transmitter module FWS61-24 V DC.

Multi sensor MS		EAN 4010312901731	**267,30 €/pc.**

FSNT61-24V/6W





Only required for the weather data transmitter module FWS61

Rated capacity 6 W. Standby loss 0.1 watt only.

Built-in device for installation. 45 mm long, 55 mm wide, 33 mm deep.

Input voltage 230V (-20 % up to +10 %).

Efficiency 82 %. Stabilised output voltage ±1%, low residual ripple.

Short-circuit proof.

Overload protection and over-temperature switch-off by means of swichting off with automatic switching-on after fault clearance (autorecovery function).

FSNT61-24V/6W	Power supply unit	EAN 4010312313169	**30,00 €/pc.**

Recommended retail prices excluding VAT.

FRW-ws

min



Wireless smoke alarm Detectomat HDv 3000 OS, white, with wireless transmitter module inserted. Only 0.03 mW standby loss of the wireless transmitter module.

This battery-powered smoke alarm is a reliable device that generates an alarm in case of fire by visual detection based on the scattered light principle. Certified to EN 14604:2005 by the VdS (German independent testing institution). Alarm signal produces loud tone at intervals of 0.5 second. Operation indication every 40 seconds by flashing red LED. Fault and battery change display by short alert tone every 40 seconds.

In case of an alarm, the inserted wireless transmitter module transmits an NO contact telegram to the Eltako wireless network. This also takes place when the test button is pressed.

While the alarm sounds, the telegram is repeated every 10 seconds. Power consumption during an alarm is 23 µA from a fitted 9 V lithium battery that powers the smoke alarm.

As soon as the alarm is cleared, 2 button NC contact telegrams are sent at an interval of 400ms. Every 20 minutes, a button NC contact telegram is sent as status telegram.

If the battery voltage is less than 7.2 V, a battery status telegram is sent in addition. It can be taught into an actuator in the same way as the upper NO contact of a left double-switch rocker.

Several FRW-ws devices can be taught in the FZK actuators. By logic linking, alarm end is only signalled when all FRW-ws devices send no more alarms.

Battery life cycle of 9 V lithium approx. 6 years, 9 V alkaline approx. 3 years. A lithium battery is contained in the scope of supply.

Product highlights (manufacturer specifications)

- Early, reliable fire detection by automatic evaluation sensor system
- High operating reliability through sophisticated automatic self-test of entire electronics and separate power measurement
- Low battery is signalled visually and acoustically for 30 days
- The alarm is equipped with a soiling meter and display in compliance with UL standards
- Faults signalled by loud 85 dB warning tone in case of alarm
- Proof against false alarm due to powerful measuring chamber and consideration of temperature fluctuations (not a temperature smoke alarm)
- Light transmission bar (LED) acts as 'alarm mute test button'
- 'Alarm memory' function. This indicates which HDv 3000 OS smoke alarm was triggered in the past 24 hours
- Wireless-based alarm signal forwarding
- Approved by VdS (test centre) for fitting in habitable recreational vehicles
- Scope of supply includes smoke alarm, detector base, user manual, 9 V lithium battery and 2 screws and rawl plugs for mounting the alarm

The wireless sensor can be taught-in into the following actuators and the wireless visualization and control software:
FGM, FLC61, FMS12/14, FMZ12/14, FMZ61, FSR12/14, FSR61, FSR70, FZK12/14, FZK61, FZK70

FRW-ws	Wireless smoke alarm, white	EAN 4010312312308	**88,30 €/pc.**

Recommended retail prices excluding VAT.

FBH55-



Wireless motion/brightness sensor for surface mounting 84x84x39 mm or mounting in 55x55 mm or 63x63 mm switch system. Power supply with a 12 V DC power supply unit or with batteries.

The scope of supply includes a frame in Q-Design QRR, an attachment frame, a battery mounting plate and an adhesive foil. For mounting in frame with 55- or 63-neckline also an intermediate frame ZR in the same color and a mounting plate.

In the as-delivered condition, the energy storage is empty and needs to be charged before use. Either via the red/black 12 V DC power cable for about 10 minutes or by inserting two pieces AAA batteries (not included in delivery) for about 10 minutes.

In normal operation, the power supply is either through the cable with a 12 V DC power supply unit FSNT61-12V/6W in a flush-mounted box under the sensor or with AAA batteries. Then the 12 V DC connecting cable may be cut off if necessary. The sensor then requires no installation depth behind the mounting plate. It can be screwed or stuck to any flat surface. An adhesive film is supplied.

We recommend sheet metal countersunk screws 2.9x25 mm, DIN 7982 C, for screw connections. Both with rawl plugs 5x25 mm and with 55 mm switch boxes. See Accessories on page Z-6.

To teach-in in an actuator in teach-in mode, hold the supplied blue magnet or any other magnet at hand below the point on the side panel of the sensor marked by ■. This sends a teach-in telegram.

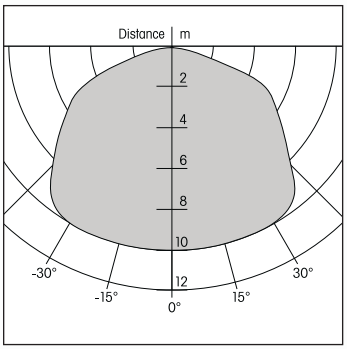
A red LED behind the Fresnel lens confirmes transmitting of the teach-in telegram by flashing briefly.

The sensor measures from 0 to 2000 lux and transmits a message to the Eltako wireless network every 100 seconds if the brightness changes by min 10 lux. If the sensor detects motion, it sends a signal twice immediately. The switch-off signal is sent after the off delay which has a fixed setting of 1 minute. If there is no change, a status message is sent every 20 minutes.

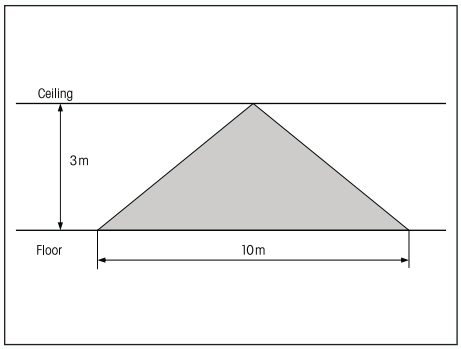
When teaching-in in actuators, the switching threshold is defined for switching the light on/off depending on the brightness. Additional variables are also taught-in on the FKR12.

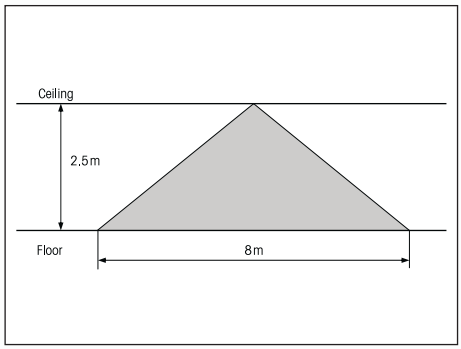
If a FBH55 detects motion, then the device is switched on and only when all the FBH55s taught-in in an actuator fail to detect motion for one minute, the actuator return delay starts if this was previously set.

Wall mounting



Ceiling mounting





The wireless sensor can be taught-in into the following actuators and the wireless visualization and control software:
FADS60, FGM, FHK12/14, FHK61, FHK70, FKR12, FKR70, FLC61, FLS12, FLS70, FSR12/14, FSR61, FSR70, FTN12/14, FTN61, FUA55LED, FUD61, FZK12/14, FZK61, FZK70

FBH55-ws	Motion/brightness sensor white	EAN 4010312302033	**129,50 €/pc.**
FBH55-rw	Motion/brightness sensor pure white	EAN 4010312302064	**129,50 €/pc.**
FBH55-an	Motion/brightness sensor anthracite	EAN 4010312314708	**129,50 €/pc.**
FBH55-sz	Motion/brightness sensor black	EAN 4010312302088	**129,50 €/pc.**
FBH55-wg*	Motion/brightness sensor pure white glossy	EAN 4010312302095	**129,50 €/pc.**
FBH55-al	Motion/brightness sensor coated/aluminium paint	EAN 4010312314692	**136,90 €/pc.**

* The bottom of the housing is matt.

Recommended retail prices excluding VAT.

FBH63AP-



Wireless motion/brightness sensor for surface mounting 84x84x39 mm or integration in the 55x55 mm and 63x63 mm switch system. Power supply with the integrated solar cell or a 12V DC power supply unit. From production week 40/2012 also with batteries.

From 40/2012 the scope of supply includes a frame in Q-Design QRR, an attachment frame, a battery mounting plate and an adhesive foil. For mounting in frame with 55- or 63-neckline also an intermediate frame ZR in the same color and a mounting plate.

In the as-delivered condition, the energy storage is empty and needs to be charged before use. Either via the red/black 12V DC power cable for about 10 minutes or via the solar cell in broad daylight for about 10 hours or from 40/2012 by inserting two pieces AAA batteries (not included in delivery) for about 10 minutes.

In normal operation, the power supply is either through the cable with a 12V DC power supply unit FSNT61-12V/6W in a flush-mounted box under the sensor or from 40/2012 with AAA batteries, supported by the solar cell, or only with the solar cell under normal ambient light, in a daily average of at least 200lux. If only the solar cell is available, the energy storage must first be charged for several days with daylight.

If the connecting cable is not needed, it can be cut off. This means the sensor requires no installation depth behind the mounting plate. It can be screwed or affixed to any flat surface. An adhesive foil is supplied.

We recommend sheet metal countersunk screws 2.9x25mm, DIN 7982 C, for screw connections. Both with rawl plugs 5x25mm and with 55mm switch boxes. See Accessories on page Z-6.

To teach-in in an actuator in teach-in mode, hold the supplied blue magnet or any other magnet at hand below the point on the side panel of the sensor marked by ■. This sends a teach-in telegram.

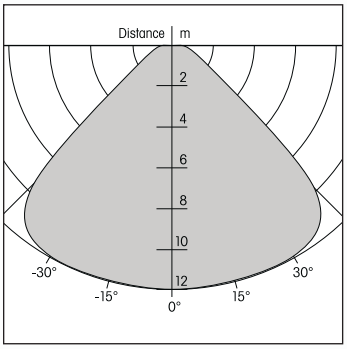
A red LED behind the Fresnel lens confirmes transmitting of the teach-in telegram by flashing briefly.

The sensor measures from 0 to 2000 lux and transmits a message to the Eltako wireless network every 100 seconds if the brightness changes by min 10 lux. If the sensor detects motion, it sends a signal twice immediately. The switch-off signal is sent after the off delay which has a fixed setting of 1 minute. If there is no change, a status message is sent every 20 minutes.

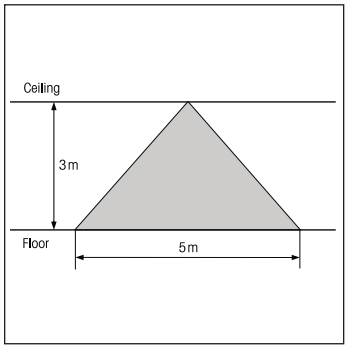
When teaching-in in actuators, the switching threshold is defined for switching the light on/off depending on the brightness. Additional variables are also taught-in on the FKR12.

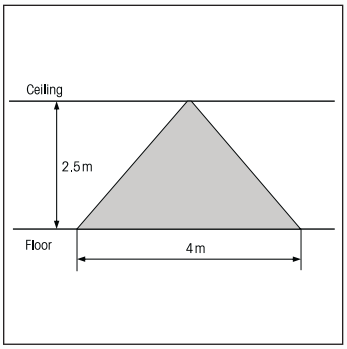
If a FBH63 detects motion, then the device is switched on and only when all the FBH63s taught-in in an actuator fail to detect motion for one minute, the actuator return delay starts if this was previously set.

Wall mounting



Ceiling mounting





The wireless sensor can be taught-in into the following actuators and the wireless visualization and control software:
FADS60, FGM, FHK12/14, FHK61, FHK70, FKR12/14, FKR70, FLC61, FLS12/14, FLS70, FSA12/14, FSR12/14, FSR61, FSR70, FTN12/14, FTN61, FUA55LED, FUD61, FZK12/14, FZK61, FZK70

FBH63AP-ws	Motion/brightness sensor white	EAN 4010312303566	**129,50 €/pc.**
FBH63AP-rw	Motion/brightness sensor pure white	EAN 4010312303573	**129,50 €/pc.**
FBH63AP-an	Motion/brightness sensor anthracite	EAN 4010312303603	**129,50 €/pc.**
FBH63AP-sz	Motion/brightness sensor black	EAN 4010312303580	**129,50 €/pc.**
FBH63AP-al	Motion/brightness sensor coated/aluminium paint	EAN 4010312310731	**136,70 €/pc.**

Recommended retail prices excluding VAT.

SR-MDSBAT



Wireless motion/brightness sensor thermokon for ceiling mounting in flush-mounted box. Battery operation. Upper part 25 mm high, diameter of 90 mm.

The sensor detects motion 360° and measures the brightness in the home.

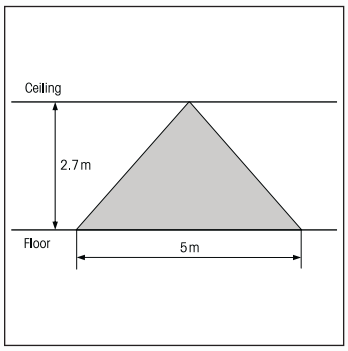
The motion detection is passive with infrared (PIR). The brightness measurement ranges up to 510 lux, accuracy ±30 Lux.

Power is supplied by three lithium batteries 1/2AA, 3.6 V. These are included in the scope of services and provide the sensor with 1.000 wireless telegrams per day for up to 6 years.

With each change in status of any movement to movement, a wireless telegram will be sent, including brightness value. Without movement, changes in brightness from 10 lux are sent every 100 seconds.

If nothing changes, about every 16 minutes a status message is sent.

Ceiling mounting



The wireless sensor can be taught-in into the following actuators and the wireless visualization and control software:
FADS60, FGM, FHK12, FHK61, FHK70, FKR12, FKR70, FLC61, FLS12, FLS70, FSA12, FSR12, FSR61, FSR70, FTN12, FTN61, FUA55LED, FUD61, FZK12, FZK61, FZK70

SR-MDSBAT	Motion/brightness sensor pure white	EAN 4010312313626	**249,00 €/pc.**

Recommended retail prices excluding VAT.

FABH63-

IP 51



Wireless outdoor motion/brightness sensor, LxWxH = 80x80x39 mm, protection class IP51.

In as-delivered state the energy accumulators are empty and must be charged in bright daylight for about 5 hours.

In normal ambient brightness (at least a daily average of 200 Lux), the energy of the integrated solar module is sufficient to power the FABH63.

The power reserve stored in capacitors supplies the power requirement for the night.

The sensor requires no installation depth behind the mounting plate and can be screwed or stuck to any flat surface. An adhesive film is supplied.

We recommend sheet metal countersunk screws 2.9x25 mm, DIN 7982 C, for screw connections. Both with rawl plugs 5x25 mm and with 55 mm switch boxes. See Accessories on page Z-6.

This sensor should not be exposed to rain or other water splashing.

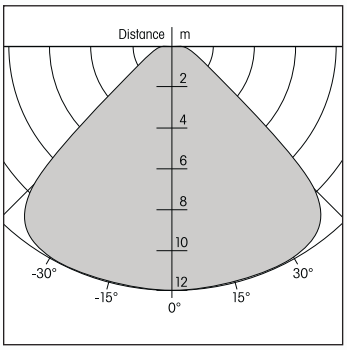
To teach-in in an actuator in teach-in mode, hold the supplied blue magnet or any other magnet at hand below the point on the side panel of the sensor marked by ■. This sends a teach-in telegram.

The sensor transmits a message to the Eltako wireless network every 100 seconds if the brightness changes by min 10 lux. If the sensor detects motion, it sends a signal twice immediately. The switch-off signal is sent after the off delay which has a fixed setting of 1 minute. If there is no change, a status message is sent every 20 minutes.

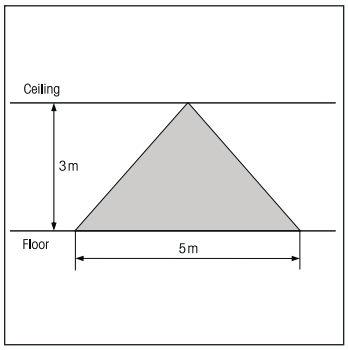
When teaching-in in actuators, the switching threshold is defined for switching the light on/off depending on the brightness. Additional variables are also taught-in on the FKR12.

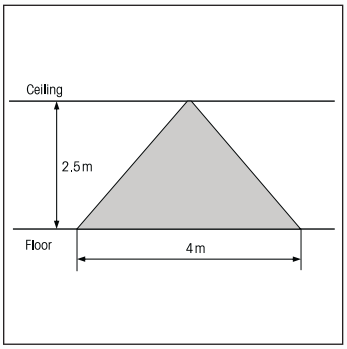
If a FABH63 detects motion, then the device is switched on and only when all the FABH63s taught-in in an actuator fail to detect motion for one minute, the actuator return delay starts if this was previously set.

Wall mounting



Ceiling mounting





The wireless sensor can be taught-in into the following actuators and the wireless visualization and control software:
FADS60, FGM, FHK12/14, FHK61, FHK70, FKR12, FKR70, FLC61, FLS12, FLS70, FSR12/14, FSR61, FSR70, FTN12/14, FTN61, FUA55LED, FUD61, FZK12/14, FZK61, FZK70

FABH63-rw	Outdoor motion/brightness sensor pure white	EAN 4010312312056	**133,70 €/pc.**
FABH63-an	Outdoor motion/brightness sensor anthracite	EAN 4010312312087	**133,70 €/pc.**
FABH63-sz	Outdoor motion/brightness sensor black	EAN 4010312312063	**133,70 €/pc.**

Recommended retail prices excluding VAT.

FIH63AP-



Wireless indoor brightness sensor for individual fitting and mounting in 55x55 mm or 63x63 mm switch system.

The electronic requires no intrinsic power supply, so there is no standby loss.

The scope of supply includes a frame R, an intermediate frame ZR in the same colour and a mounting plate. The installation in an existing frame R1F, R2F or R3F for flat pushbuttons takes place with the intermediate frame ZR.

The wireless indoor brightness sensor FIH63AP powered by a solar module covers the range from 0 to 30000 Lux. From approx. 300 Lux, it transmits a wireless telegram to the Eltako wireless network every time there is a brightness change of more than approx. 500 Lux within approx. 10 seconds. If the brightness does not change, a control signal is sent approx. every 100 seconds.

New actuators FSR and FSB can cover the range from 0 to approx. 30 Lux using the twilight switch function. A wireless telegram is sent about every 100 seconds within this range.

In as-delivered state the energy accumulators are empty and must be charged in bright daylight for about 5 hours or connected to a charger for about 10 minutes via the red/black 12 V DC connecting cable.

The power reserve stored in capacitors supplies the power requirement for the night.

In normal ambient brightness (at least a daily average of 200 Lux), the energy of the integrated solar module is sufficient to power the FIH63AP. Then the 12 V DC connecting cable may be cut off if necessary. The sensor then requires no installation depth behind the mounting plate. It can be screwed or stuck to any flat surface. An adhesive film is supplied.

We recommend sheet metal countersunk screws 2.9x25 mm, DIN 7982 C, for screw connections. Both with rawl plugs 5x25 mm and with 55 mm switch boxes. See Accessories on page Z-6.

If the ambient brightness is insufficient, power is supplied by the connecting cable from a switching power supply unit FSNT61-12 V/6 W fitted below in a switch box.

The complete module can be removed from the frame for screw mounting.

To teach-in in an actuator in teach-in mode, hold the supplied blue magnet or any other magnet at hand below the point on the side panel of the sensor marked by ■. This sends a teach-in telegram.

When teaching-in in actuators, the switching threshold is defined for switching the light on/off depending on the brightness.

The wireless sensor can be taught-in into the following actuators and the wireless visualization and control software:
FKR12, FKR70, FLC61, FSB12/14, FSB61, FSB70, FSR12/14, FSR61, FSR70, FUD61

FIH63AP-ws	Brightness sensor white	EAN 4010312311431	**82,50 €/pc.**
FIH63AP-rw	Brightness sensor pure white	EAN 4010312311783	**82,50 €/pc.**
FIH63AP-an	Brightness sensor anthracite	EAN 4010312311813	**82,50 €/pc.**
FIH63AP-sz	Brightness sensor black	EAN 4010312311790	**82,50 €/pc.**
FIH63AP-al	Brightness sensor coated/aluminium paint	EAN 4010312311776	**89,70 €/pc.**

Recommended retail prices excluding VAT.

FAH63-

IP 51



Wireless outdoor brightness sensor, LxWxH = 80x80x30 mm, Protection degree IP51.

The electronic requires no intrinsic power supply, so there is no standby loss.

The wireless outdoor brightness sensor FAH63 powered by a solar module covers the range from 0 to 30000 Lux. From approx. 300 Lux, it transmits a wireless telegram to the Eltako wireless network every time there is a brightness change of more than approx. 500 Lux within approx. 10 seconds. If the brightness does not change, a control signal is sent approx. every 100 seconds.

New actuators FSR and FSB can cover the range from 0 to approx. 30 Lux using the twilight switch function. A wireless telegram is sent about every 100 seconds within this range.

In as-delivered state the energy accumulators are empty and must therefore be charged in bright daylight for approx. 5 hours.

The power reserve stored in capacitors supplies the power requirement for the night.

In normal ambient brightness (at least a daily average of 200 Lux), the energy of the integrated solar module is sufficient to power the FAH63. The sensor requires no installation depth behind the mounting plate and can be screwed or glued to any flat surface. An adhesive film is supplied.

The complete module can be removed from the frame for screw mounting.

We recommend sheet metal countersunk screws 2.9x25 mm, DIN 7982 C, for screw connections. Both with rawl plugs 5x25 mm and with 55 mm switch boxes. See Accessories on page Z-6.

This sensor should not be exposed to rain or other water splashing.

To teach-in in an actuator in teach-in mode, hold the supplied blue magnet or any other magnet at hand below the point on the side panel of the sensor marked by ■. This sends a teach-in telegram.

When teaching-in in actuators, the switching threshold is defined for switching the light on/off depending on the brightness.

The wireless sensor can be taught-in into the following actuators and the wireless visualization and control software:
FKR12, FKR70, FLC61, FSB12/14, FSB61, FSB70, FSR12/14, FSR61, FSR70, FUD61

FAH63-rw	Brightness sensor pure white	EAN 4010312312117	**95,10 €/pc.**
FAH63-an	Brightness sensor anthracite	EAN 4010312312131	**95,10 €/pc.**
FAH63-sz	Brightness sensor black	EAN 4010312312124	**102,30 €/pc.**

Recommended retail prices excluding VAT.

FAH60

IP 54



Wireless outdoor brightness sensor, 60x46 mm, 30 mm deep.

The electronic requires no intrinsic power supply, so there is no standby loss.

The wireless outdoor brightness sensor FAH60 powered by a solar module covers the range from 0 to 30000 Lux. From approx. 300 Lux, it transmits a wireless telegram to the Eltako wireless network every time there is a brightness change of more than approx. 500 Lux within approx. 10 seconds.

If the brightness does not change, a control signal is sent approx. every 100 seconds.

New actuators FSR and FSB can cover the range from 0 to approx. 30 Lux using the twilight switch function. A wireless telegram is sent about every 100 seconds within this range.

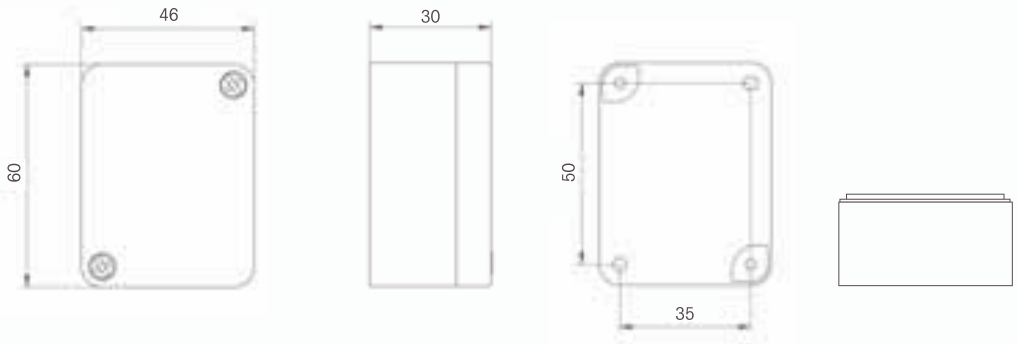
Starting in production week 28/2011: **To teach-in** in an actuator in teach-in mode, hold the supplied blue magnet or any other magnet at hand below the point on the side panel of the sensor marked by ■. This sends a teach-in telegram.

Solar-powered energy accumulator:
Before startup the energy accumulator must be charged.
The charge time is approx. 5 hours at 400 Lux. Keep the cover of the solar cell clean!

The protection class is IP54, the allowable ambient temperature is -20°C to +55°C.

For screw mounting or attachment with adhesive. The scope of supply comprises an adhesive foil.

Shading elements may not cover brightness sensors. Keep the cover of the solar cells clean!



The wireless sensor can be taught-in into the following actuators and the wireless visualization and control software:
FKR12/14, FKR70, FLC61, FSB12/14, FSB61, FSB70, FSR12/14, FSR61, FSR70, FUD61

FAH60	Wireless outdoor brightness sensor	EAN 4010312305218	**89,90 €/pc.**

Recommended retail prices excluding VAT.

FADS60

min | IP 54 | ↔))))



Wireless outdoor twilight sensor with actuator, 60x46 mm, 30mm deep.
1 NO contact not potential free 10 A/250 V AC, incandescent lamps 2000 Watt.
Bidirectional wireless and with repeater function. Only 0.7 watt standby loss.

This sensor/actuator combination can be used to switch on/off a garden lighting system, for example. In addition, wireless pushbuttons, hand-held wireless transmitters, FTK wireless window/door contacts and FABH63 wireless motion sensors can be taught in.

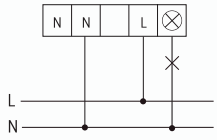
Every status change and incoming central control telegrams are confirmed by a wireless telegram. This wireless telegram can be taught into other actuators, the FVS-Software and FUA55 universal displays. Brightness parameters are not sent.

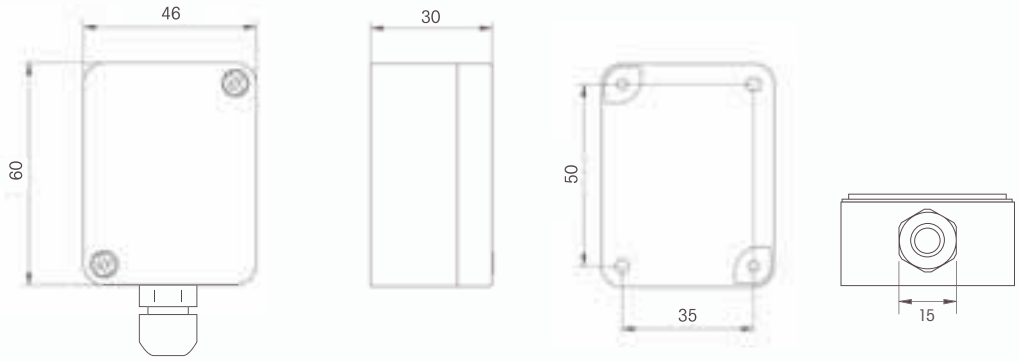
On the underside there is an M12 screw for the IP54 waterproof 230 V mains connection. Connection to an internal 4-way terminal for L, 2 x N and the contact output. To access the terminal, undo the two screws on the front and remove the cover.

Also, there are two rotary switches inside to teach-in sensors and switch on/off the repeater function if required. In operation, these rotary switches are used to set the switching threshold 'ON in darkness' and 'OFF in brightness'. The switching threshold and hysteresis are selectable up to 200 lux.

When the upper rotary switch is in ESV position, the twilight function is switched off and the actuator operates as an impulse switch. The lower rotary switch can be used to set a time delay.

Typical connection





FADS60	Wireless outdoor twilight sensor with actuator	EAN 4010312311233	**88,40 €/pc.**

Recommended retail prices excluding VAT.

FIFT63AP-



Wireless indoor humidity temperature sensor for individual fitting and mounting in 55x55 mm or 63x63 mm switch system.

The electronic requires no intrinsic power supply, so there is no standby loss.

The scope of supply includes a frame R, an intermediate frame ZR in the same colour and a mounting plate. The installation in an existing frame R1F, R2F or R3F for flat pushbuttons takes place with the intermediate frame ZR.

The power supplied wireless indoor humidity/temperature sensor FIFT63AP with a solar module measures constantly the relative humidity between 0 and 100% (±5%) and the temperature between -20 and +60°C (±0.5°C).

A wireless telegram will be sent to the Eltako wireless network in case of a humidity change of 2% and temperature change of 0.6°C. A control signal follows every 100 to 3000 seconds at stable values depending on the state of charge of the sensor.

In as-delivered state the energy accumulators are empty and must be charged in bright daylight for about 5 hours or connected to a charger for about 10 minutes via the red/black 12 V DC connecting cable.

The power reserve stored in capacitors supplies the power requirement for the night.

In normal ambient brightness (at least a daily average of 200 Lux), the energy of the integrated solar module is sufficient to power the FIFT63AP. Then the 12 V DC connecting cable may be cut off if necessary. The sensor then requires no installation depth behind the mounting plate. It can be screwed or stuck to any flat surface. An adhesive film is supplied.

We recommend sheet metal countersunk screws 2.9x25 mm, DIN 7982 C, for screw connections. Both with rawl plugs 5x25 mm and with 55 mm switch boxes. See Accessories on page Z-6.

If the ambient brightness is insufficient, power is supplied by the connecting cable from a switching power supply unit FSNT61-12 V/6 W fitted below in a switch box.

The complete module can be removed from the frame for screw mounting.

To teach-in in an actuator in teach-in mode or the FVS Software, hold the supplied blue magnet or any other magnet at hand below the point on the side panel of the sensor marked by ■. This sends a teach-in telegram.

The wireless sensor can be taught-in into the following actuators and the wireless visualization and control software:
F2L61, F2L70, F4L12, FHK12/14, FHK61, FHK70

FIFT63AP-ws	Humidity temperature sensor white	EAN 4010312311448	**108,40 €/pc.**
FIFT63AP-rw	Humidity temperature sensor pure white	EAN 4010312311844	**108,40 €/pc.**
FIFT63AP-an	Humidity temperature sensor anthracite	EAN 4010312311899	**108,40 €/pc.**
FIFT63AP-sz	Humidity temperature sensor black	EAN 4010312311851	**108,40 €/pc.**
FIFT63AP-al	Humidity temperature sensor coated/aluminium paint	EAN 4010312311868	**115,60 €/pc.**

Recommended retail prices excluding VAT.

FAFT60

IP 54



Wireless outdoor humidity temperature sensor, 60 x 46 mm, 30 mm deep.

The electronic requires no intrinsic power supply, so there is no standby loss.

The wireless outside humidity temperature sensor FAFT60 powered by a solar module continuously measures the relative air humidity between 0 and 100% (±5%) and temperature between -20 and +60°C (±0.5°C). Of course, it performs these functions not only outdoors but also indoors, provided the brightness is sufficient.

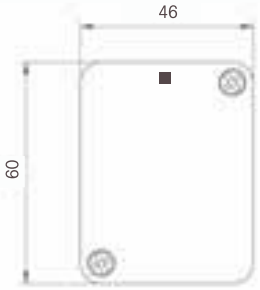
A wireless telegram is sent to the Eltako wireless network when humidity changes by 2% and in case of a temperature change of 0.6°C. If readings remain constant, a control message is sent every 100 to 3000 seconds, depending on the charge state of the sensor.

To teach-in in an actuator in teach-in mode or the FVS Software, hold the supplied blue magnet or any other magnet at hand below the point on the side panel of the sensor marked by ■. This sends a teach-in telegram.

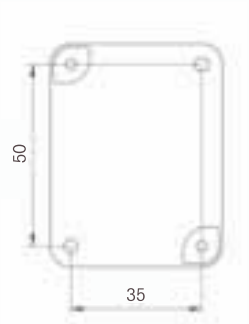
Solar-powered energy accumulator:
Before startup the energy accumulator must be charged.
The charge time is approx. 5 hours at 400 Lux. Keep the cover of the solar cell clean!

The protection class is IP54, the allowable ambient temperature is -20°C to +55°C.

For screw mounting or attachment with adhesive. The scope of supply comprises an adhesive foil.







The wireless sensor can be taught-in into the following actuators and the wireless visualization and control software:
F2L61, F2L70, F4L12, FHK12/14, FHK61, FHK70

FAFT60	Wireless outdoor humidity temperature sensor	EAN 4010312310120	**109,40 €/pc.**

Recommended retail prices excluding VAT.

SR65VFG

IP 65



Wireless contact temperature sensor Thermokon 10 to 90°C, 78x58 mm, 46 mm deep.

The electronic requires no intrinsic power supply, so there is no standby loss.

The wireless contact temperature sensor supplied with a solar module continuously measures the temperature between +10 and +90° C (±0.8°C).

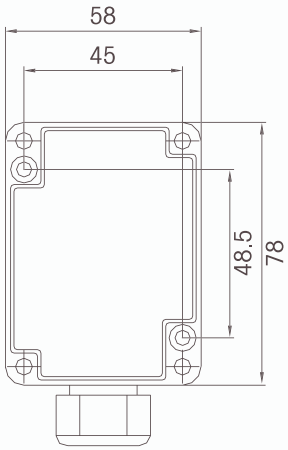
At each temperature change of 1.6°C after 100 seconds, a wireless telegram will be sent to the Eltako Wireless Building. At constant values every 16 minutes a control message is sent.

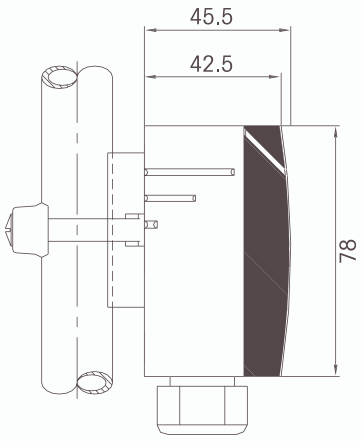
To teach in the FVS software the inner button is pressed and a teach-in telegram is sent.

Solar-powered energy accumulator:
Before startup the energy accumulator must be charged. The charge time is approx. 5 hours at 400 Lux. If there is not enough natural light, a lithium battery 1/2AA, 3.6V is used. This provides the sensor approx. 5-10 years (not included in the scope of delivery).

The protection class is IP65, the allowable ambient temperature is -25°C to +65°C.

Mounting with thermal grease and mounting strap (included in the scope of delivery).





The wireless sensor can be taught-in into the wireless visualization and control software.

SR65VFG	Wireless contact temperature sensor	EAN 4010312313619	**132,00 €/pc.**

Recommended retail prices excluding VAT.

SR65TF251

IP 65



Wireless cable temperature sensor Thermokon -20 to +60°C, 78x58 mm, 46 mm deep. Cable length 92 cm including tube of 5 cm, hexagonal pressed.

The electronic requires no intrinsic power supply, so there is no standby loss.

The wireless cable temperature sensor supplied with a solar module continuously measures the temperature between -20 and +60°C (±0.8°C).

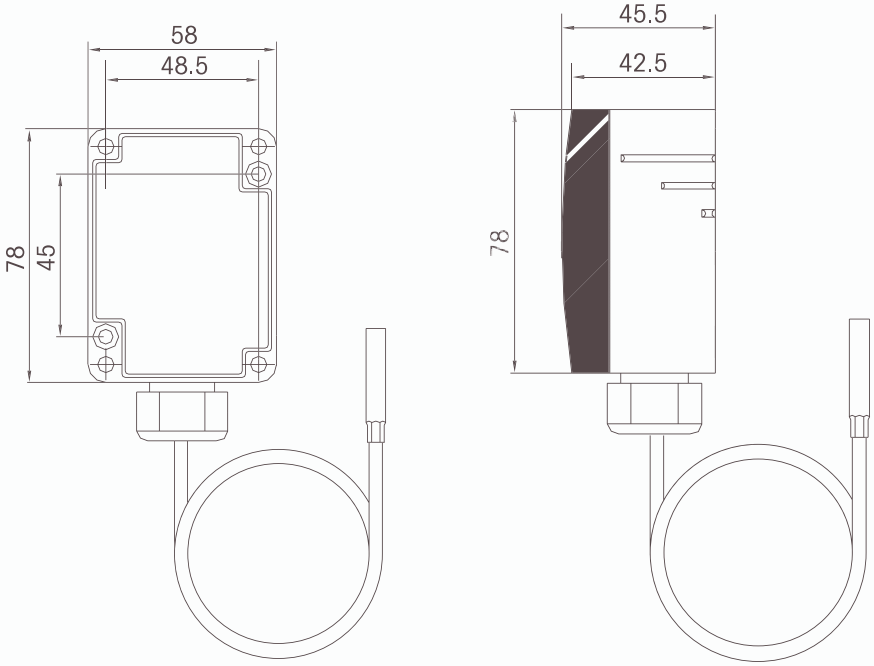
At each temperature change of 1.6°C after 100 seconds, a wireless telegram will be sent to the Eltako Wireless Building. At constant values every 16 minutes a control message is sent.

To teach in the FVS software the inner button is pressed and a teach-in telegram is sent.

Solar-powered energy accumulator:
Before startup the energy accumulator must be charged. The charge time is approx. 5 hours at 400 Lux. If there is not enough brightness, a lithium battery 1/2AA, 3.6V is used. This provides the sensor approx. 5-10 years (not included in the scope of delivery).

The protection class is IP65, the allowable ambient temperature is -25°C to +65°C.

Mounting with screws. The cable sensor (6 mm diameter) may be connected to the measuring medium with thermal grease (not included in the scope of delivery).



The wireless sensor can be taught-in into the wireless visualization and control software.

SR65TF251	Wireless cable temeperature sensor	EAN 4010312313602	**134,00 €/pc.**

Recommended retail prices excluding VAT.

FUTH55D-

min



Wireless clock thermometer and -hygrostat with display for individual fitting and mounting in 55x55 mm or 63x63 mm switch system. Only 0.2 watt standby loss. With adjustable day and night reference temperatures and relative humidity. Preset ready to operate.

The scope of supply includes a frame R, an intermediate frame ZR in the same colour and a mounting plate. In addition, an intermediate frame ZRF in the same colour is supplied for installation in an existing frame R1F, R2F or R3F for flat pushbuttons.

Power supply 12 V DC. A 20 cm long black/blue connecting wire is routed to the rear.

Before screwing on, remove the frame and intermediate frame from the mounting plate. To do this, press out the catches on the mounting plate. Then screw on the mounting plate - with the catches at the top and bottom -, snap on the frame and the intermediate frame, and connect and snap on the clock thermostat-hygrostat.

We recommend sheet metal countersunk screws 2.9x25 mm, DIN 7982 C, for screw connections on 55 mm switch boxes. See Accessories on page Z-6.

Up to 60 timer memory locations are freely assigned to the channels. With date and automatic summer/winter time changeover. Ca. 14 days power reserve without battery. With slide switch for normal operation, night mode and control out.

The wireless clock thermostat sends a message to the Eltako wireless network every 50 seconds when there is an actual temperature change of minimum 0.3°C or a change in humidity of 5%. A change in reference temperature or relative humidity is sent immediately. If there is no change, a status report is sent every 10 minutes. **Queries of a wireless small actuator FKS which are received approximately every 10 minutes will be answered immediately. Settings are made with the buttons MODE and SET and can be locked.**

A complete switching programme is preset and can be very easily changed: day reference temperature 22°C Monday to Thursday from 6:00 to 22:00, Friday from 6:00 to 23:00, Saturday from 7:00 to 23:00 and Sunday from 7:00 to 22:00. The preset night reference temperature is 18°C.

Set language: Every time the power supply is applied, press SET within 10 seconds to set the language german or english and press MODE to confirm. The **normal display** then appears: Weekday, date, time, actual temperature from 0°C to +40°C to one decimal point and relative humidity. Through self-heating, the correct actual temperature will only be displayed 30 minutes after connecting of the supply voltage. To adapt the sensor to the ambient conditions, the internal sensor can be adjusted to the actual room temperature and humidity. If the settings are locked, the reference temperature *set-temp.* can be displayed and changed here from +8°C to +40°C in steps of 0.5°C by pressing MODE followed by SET.

Rapid scroll: In the following settings, the numerals scroll rapidly when you press and hold down Enter. Release then press and hold down to change the scroll direction.

Set clock: Press MODE then press SET to search for the ***clock*** **function.** Press MODE to set. Press SET to select the hour and press MODE to confirm. Proceed in the same way to set the minute.

Set date: Press MODE then press SET to search for the ***date*** **function.** Press MODE to select. Press SET to select the year and press MODE to confirm. Proceed in the same way to set the month and the day. The last setting in the sequence the weekday is following. Press SET to set it.

Summer/winter time changeover: Press MODE then press SET to search for the ***automatic summer/wintertime*** **function** and press MODE to select. Now press SET to switch between *activ* and *inactiv.* If you select *activ,* changeover is automatic.

Teaching-in actuators according to the operating manual. Different actuators as well as small actuators FKS (kieback&peter, type MD15-FtL-HE) can be taught-in. Teaching in window/door contacts FTK and Hoppe window handles can be taught-in for FKS in this clock thermostat FUTH55D, otherwise in the actuators mentioned.

If window/door contacts FTK or Hoppe window handles were taught-in, the setting is lowered to frost protection temperature 8°C as long as one or several windows are open.

Lock settings: Briefly press MODE and SET together and at *lock,* press SET to lock. This is displayed by an arrow next to the lock symbol.

Unlock settings: Press MODE and SET together for 2 seconds and at *unlock* press SET to unlock.

The wireless sensor can be taught-in into the following actuators and the wireless visualization and control software:
F2L61, F2L70, F4H12, F4L12, FHK12/14, F4HK14, FHK61, FHK70, FME14

FUTH55D-ws	Clock thermometer with display white	EAN 4010312314272	**122,30 €/pc.**
FUTH55D-rw	Clock thermometer with display pure white	EAN 4010312314296	**122,30 €/pc.**
FUTH55D-an	Clock thermometer with display anthracite	EAN 4010312314326	**122,30 €/pc.**
FUTH55D-sz	Clock thermometer with display black	EAN 4010312314302	**122,30 €/pc.**
FUTH55D-wg*	Clock thermometer with display pure white glossy	EAN 4010312314319	**122,30 €/pc.**
FUTH55D-al	Clock thermometer with display coated/aluminium paint	EAN 4010312314289	**134,70 €/pc.**

* The bottom of the housing is matt.

Recommended retail prices excluding VAT.

FKS



The valve lower part depicted is not included in the scope of delivery.

Wireless small actuator MD15-FtL-HE from kieback&peter for radiators. No wires since it is battery powered. Low standby losses.

Room temperature control for constant control in conjunction with the thermo clock/hygrostat FUTH55D.

Fitted to customary radiator valves made by numerous manufacturers.

The small actuator is powered by 3 alkaline Mignon Type AA batteries that have a service life of up to 3 years. Energy-saving technologies and sophisticated engineering ensure very low power consumption.

The reference temperature is set on the FUTH55D as well as the switching times **for heat reduction at night.**

Battery monitoring:
The battery capacity is monitored continuously. A low battery capacity is signaled acoustically with short beeps every 6 hours. The remaining capacity of the batteries is then <10 %. If the battery voltage drops further, take the safety position, the small actuator occupys the safety position of 50 % unlocked.

Teaching-in of FUTH55D in a FKS:
By pressing the pushbutton located under the removable cover for about 1 second a ready to be taught-in FUTH55D will be taught-in into a FKS according to the operating manual. The status LED lights up briefly and an acoustic signal is emitted.

After the taught-in confirmation of the FUTH55D the LED lights up for 2 seconds and 2 beeps occur.

Communication test:
With the pushbutton located under the hood a communication test can be performed manually.

By pressing this pushbutton for 2 seconds the wireless link to the FUTH55D will be checked. A successful communication is acknowledged by the status LED about 3 seconds after the button is released and by a beep.

Wireless interface:
The wireless communication with the FUTH55D is cyclical (wireless cycle approximately every 10 minutes). At the same time the entire wireless protocol will be sent to the FUTH55D and values of the FUTH55D will be received.

Energy hold (automatic identification 'window open'):
With the window open, the heat energy supply for the room is interrupted. An open window will be detected by a strong and rapid temperature drop at the small wireless actuator FKS. This then closes the valve for 30 minutes, then the small actuator FKS returns to normal operation and the function 'energy hold' is active again.

If window contacts FTK are taught-in in the FUTH55D, the temperature reduction is controlled by the FTK.

Anti-freeze function:
If the temperature at the internal temperature measuring transducer drops below 6°C, the small wireless actuator opens the valve as long as 8°C will be reached.

Emergency operation:
An integrated temperature controller is activated when no wireless telegram is received.
With the integrated temperature measuring transducer (actual value) and the integrated control function of the actuator it will be regulated to a fixed setpoint of 20°C.

Without adapter on valves with M30x1.5 connection thread made by Heimeier, Honeywell-MNG, Junkers, TA, Honeywell-Bankmann, Oventrop (2001 or later), Cazzaniga etc.

FKS	Small actuator	EAN 4010312311103	**145,00 €/pc.**

Recommended retail prices excluding VAT.

FTR55H-



Wireless temperature controller with hand wheel for surface mounting or integration in the 55x55 mm and 63x63 mm switch system. Power supply with the integrated solar cell or a 12 V DC power supply unit. From production week 48/2012 also with batteries.

From 48/2012 the scope of supply includes a frame in Q-Design QRR, an attachment frame, a battery mounting plate and an adhesive foil. Designed to fit in the recesses of 55 and 63 frames (without batteries!) additionally with one ZR and ZRF intermediate frame in the same colour and one mounting plate.

In the as-delivered condition, the energy storage is empty and needs to be charged before use. Either via the red/black 12 V DC power cable for about 10 minutes or via the solar cell in broad daylight for about 5 hours or from 48/2012 by inserting two pieces AAA batteries (not included in delivery) for about 1 minute.

In normal operation, the power supply is either through the cable with a 12V DC power supply unit FSNT61-12 V/6 W in a flush-mounted box under the sensor or from 48/2012 with AAA batteries, supported by the solar cell, or only with the solar cell under normal ambient light, in a daily average of at least 200 lux. If only the solar cell is available, the energy storage must first be charged for several days with daylight.

If the connecting cable is not needed, it can be cut off. This means the sensor requires no installation depth behind the mounting plate. It can be screwed or affixed to any flat surface. An adhesive foil is supplied.

We recommend sheet metal countersink screws 2.9x25 mm, DIN 7982 C, for screw connections. Both with rawl plugs 5x25mm and with 55mm switch boxes. See Accessories on page Z-6.

To teach-in in an actuator in teach-in mode, hold the supplied blue magnet or any other magnet at hand below the point on the side panel of the sensor marked by ■. This sends a teach-in telegram. The slide switch should be on normal mode then.

The temperature controller sends a message into the Eltako wireless network within 100 seconds when there is a change in the actual or reference temperature of min 0.3°C. If there is no change, a status report is sent every 20 minutes.

Measurement accuracy is approx. 1°C.

The day reference temperature that ranges from +12°C to +28°C is changed using the hand wheel.

A **night reduction** can be activated by the slide switch. This makes the night reference temperature 4°C lower than the day reference temperature.

The **slide switch** is for function selection.
☼ = normal mode (day).
0 = temperature control off; the actual temperature continues to be sent, however.
☾ = night reduction active.

The wireless sensor can be taught-in into the following actuators and the wireless visualization and control software:
F2L61, F2L70, F4H12, F4L12, FHK12/14, FHK61, FHK70

FTR55H-ws	Temperature controller with hand wheel white	EAN 4010312311189	**90,80 €/pc.**
FTR55H-rw	Temperature controller with hand wheel pure white	EAN 4010312311929	**90,80 €/pc.**
FTR55H-an	Temperature controller with hand wheel anthracite	EAN 4010312311950	**90,80 €/pc.**
FTR55H-sz	Temperature controller with hand wheel black	EAN 4010312311936	**90,80 €/pc.**
FTR55H-wg *	Temperature controller with hand wheel pure white glossy	EAN 4010312311943	**90,80 €/pc.**
FTR55H-al	Temperature controller with hand wheel coated/aluminium paint	EAN 4010312311981	**99,60 €/pc.**

* The bottom of the housing is matt.

Recommended retail prices excluding VAT.

FTR55D-



Wireless temperature controller with display for surface mounting or integration in the 55x55 mm and 63x63 mm switch system. Power supply with the integrated solar cell or a 12 V DC power supply unit. From production week 49/2012 also with batteries.

From 49/2012 the scope of supply includes a frame in Q-Design QRR, an attachment frame, a battery mounting plate and an adhesive foil. For mounting in frame with 55- or 63-neckline also an intermediate frame ZR and ZRF in the same color and a mounting plate.

In the as-delivered condition, the energy storage is empty and needs to be charged before use. Either via the red/black 12 V DC power cable for about 5 minutes or via the solar cell in broad daylight for about 5 hours or from 49/2012 by inserting two pieces AAA batteries (not included in delivery) for about 5 minutes.

In normal operation, the power supply is either through the cable with a 12 V DC power supply unit FSNT61-12 V/6 W in a flush-mounted box under the sensor or from 49/2012 with AAA batteries, supported by the solar cell, or only with the solar cell under normal ambient light, in a daily average of at least 200 lux. If only the solar cell is available, the energy storage must first be charged for several days with daylight.

If the connecting cable is not needed, it can be cut off. This means the sensor requires no installation depth behind the mounting plate. It can be screwed or affixed to any flat surface. An adhesive foil is supplied.

We recommend sheet metal countersunk screws 2.9x25 mm, DIN 7982 C, for screw connections. Both with rawl plugs 5x25 mm and with 55 mm switch boxes. See Accessories on page Z-6.

If the ambient brightness is insufficient, power is supplied by the connecting cable from a switch mode power supply unit FSNT61-12 V/6 W fitted below it in a switch box.

The complete module can be removed from the frame so that it can be screwed on.

The sensor sends a message every 100 seconds to the Eltako wireless network at an actual temperature change of minimum 0.3°C. The bistable display is updated.
A change in reference temperature is sent immediately. The display is updated.
If there is no change, a status report is sent every 20 minutes.

Measurement accuracy is approx. 1°C.

The normal display consists of a large ambient temperature display ranging from 0°C to +40°C. Above the day reference temperature is displayed in small digits preceded by 'd' (= day).

Adjust the day reference temperature from +8°C to +40°C in steps of 0.5°C by pressing the ▲ and ▼ buttons. Several key operations are accumulated. The new reference temperature appears in the display in large digits after approx. 1 second. After a further approx. 4 seconds, the display returns to normal mode.

Night reduction can also be activated and adjusted by pressing the ▲ and ▼ keys. Activation is by pressing both keys simultaneously and briefly. The top of the display shows the night reference temperature in small digits preceded by 'n' (= night). The presetting is a value which is 4°C lower than the day reference temperature. Terminate the night reduction function by briefly pressing the two keys simultaneously.

The temperature reduction value can be changed in steps of 1°C by pressing the ▲ and ▼ keys as long as the night reduction function is activated. Here too, several key operations are accumulated. The new temperature reduction value is shown in the display in large digits after approx. 1 second. After a further approx. 4 seconds, the display returns to night reduction mode. Terminate the night reduction function by briefly pressing the two keys simultaneously.

The wireless sensor can be taught-in into the following actuators and the wireless visualization and control software:
F2L61, F2L70, F4H12, F4L12, FHK12/14, FHK61, FHK70

FTR55D-ws	Temperature controller with display white	EAN 4010312302361	**145,30 €/pc.**
FTR55D-rw	Temperature controller with display pure white	EAN 4010312302385	**145,30 €/pc.**
FTR55D-an	Temperature controller with display anthracite	EAN 4010312302439	**145,30 €/pc.**
FTR55D-sz	Temperature controller with display black	EAN 4010312302408	**145,30 €/pc.**
FTR55D-wg*	Temperature controller with display pure white glossy	EAN 4010312302415	**145,30 €/pc.**
FTR55D-al	Temperature controller with display coated/aluminium paint	EAN 4010312305393	**154,10 €/pc.**

* The bottom of the housing is matt.

Recommended retail prices excluding VAT.

FTF55-



Wireless temperature sensor for surface mounting and integration in the 55x55 mm and 63x63 mm switch system. Own power supply from integrated solar cells.

The scope of supply includes a frame R, an intermediate frame ZR in the same colour, a mounting plate and an adhesive film. In addition, an intermediate frame ZRF in the same colour is supplied for installation in an existing frame R1F, R2F or R3F for flat flat pushbuttons.

In the as-delivered state, the energy accumulators are empty and therefore they must first be charged either in bright daylight for approx. 5 hours or using the red/black 12 V DC connecting cable for approx. 10 minutes.

The power reserve stored in capacitors supplies the power requirement for the night.

In normal ambient brightness (daily average of at least 200 Lux) the energy of the integrated solar module is sufficient to power the sensor. Then the 12 V DC connecting cable may be cut off if necessary. This means the sensor requires no installation depth behind the mounting plate. It can be screwed or affixed to any flat surface. An adhesive film is supplied.

We recommend sheet metal countersunk screws 2.9x25 mm, DIN 7982 C, for screw connections. Both with rawl plugs 5x25 mm and with 55 mm switch boxes. See Accessories on page Z-6.

If the ambient brightness is insufficient, power is supplied by the connecting cable from a switch mode power supply unit FSNT61-12 V/6 W fitted below it in a switch box.

The complete module can be removed from the frame so that it can be screwed on.

The sensor sends a message every 100 seconds to the Eltako wireless network at an actual temperature change of minimum 0.3°C. The bistable display is updated.
If there is no change, a status report is sent every 20 minutes.

Measurement accuracy is approx. 1°C.

The wireless sensor can be taught-in into the following actuators and the wireless visualization and control software:
F2L61, F2L70, F4L12, FHK12/14, FHK61, FHK70

FTF55-ws	Temperature sensor white	EAN 4010312302521	**92,90 €/pc.**
FTF55-rw	Temperature sensor pure white	EAN 4010312302545	**92,90 €/pc.**
FTF55-an	Temperature sensor anthracite	EAN 4010312302590	**92,90 €/pc.**
FTF55-sz	Temperature sensor black	EAN 4010312302569	**92,90 €/pc.**
FTF55-wg *	Temperature sensor pure white glossy	EAN 4010312302576	**92,90 €/pc.**
FTF55-al	Temperature sensor coated/aluminium paint	EAN 4010312305423	**101,70 €/pc.**

* The bottom of the housing is matt.

Recommended retail prices excluding VAT.

SR04CO2



Wireless indoor CO_2+temperature sensor thermokon for surface mounting, LxWxH = 85x85x25 mm.

The sensor measures the CO_2 content of the air and the temperature in rooms.

For CO_2 measurement, the NDIR technology (non Dispersivee InfraRed) is used with automatic self-calibration. Measurement range from 0 to 2550 ppm and 0 to 51°C.

Supply voltage of 24 V with a below the SR04 mounted FSNT61-24 V/6 W in a flush-mounted box. Power consumption approx. 1.5 W.

After 100 seconds, the current CO_2 and temperature values are determined and compared with the last wireless telegram. Relating to a deviation a wireless telegram is sent immediately. A status message will be sent approximately every 16 minutes, even if the values had not changed.

SR04CO2	CO_2+temperature sensor pure white	EAN 4010312313589	**390,00 €/pc.**

SR04CO2rHZ



Wireless indoor CO_2+temperature+humidity sensor thermokon for surface mounting, LxWxH = 85x85x25 mm.

In addition to the above-described sensor SR04CO2, this sensor measures the relative humidity from 0 to 100% rF and indicates the CO_2 content with three LEDs.

The relative humidity will be sent in the wireless telegram along with CO_2 content and temperature.

The green LED lights up to 750 ppm (high to moderate indoor air quality), the yellow between 751 and 1250 ppm (moderate indoor air quality) and the red from 1251 ppm (lower indoor air quality).

SR04CO2rHZ	CO_2+temperature+humidity sensor pure white	EAN 4010312313596	**460,00 €/pc.**

Recommended retail prices excluding VAT.

thanos L SR and S SR



thanos L SR



thanos S SR

Wireless multifunction room control unit thermokon for fitting on a flush mounted box. Standby loss only 4 watts.

The multifunction room control unit with a 3.5" touch display detects the temperature and humidity at the place of installation. It transmits these parameters to the wireless network as well as key commands on the touch display.

The aluminium function brace contains a further touch sensor which is parameterisable using a wireless function.

The L types also have an additional 8 touch buttons which are user-definable.

A labelling foil can be printed and inserted here.

The front panel is made of glass. The housing behind it is made of ABS plastic, white or black.

The S types are 126 mm and the L types 197 mm high. They are 82 mm deep and 18.5 mm deep to the wall. The connection part projects 34 mm into the flush mounted box.

The 24 V DC source is a switch mode power supply unit FSNT61-24 V/6 W in a deep flush mounted box behind the room control unit or in a second flush mounted box.

The actual temperature is measured in a range from 0 to 50°C, ± 0.5 K. Relative humidity is measured in a range from

0 to 100% rh or ± 3% rh in the range 20 to 80% rh.

The reference temperature is directly set on the display. Startup and parameterisation are carried out using the thanos software which is downloadable from thermokon.de.

The wireless sensor can be taught-in into all actuators and the wireless visualization and control software.

thanos L SR white	Multifunction room control unit white	EAN 4010312303657	**533,- €/pc.**
thanos L SR black	Multifunction room control unit black	EAN 4010312303640	**533,- €/pc.**
thanos S SR white	Multifunction room control unit white	EAN 4010312313633	**499,- €/pc.**
thanos S SR black	Multifunction room control unit black	EAN 4010312303640	**499,- €/pc.**

Recommended retail prices excluding VAT.

thanos L SRQ

Wireless multifunction room control unit thermokon, horizontal, for fitting to a flush mounted box. Standby loss only 4 watts.

The multifunction room control unit with a 3.5" touch display detects the temperature and humidity at the place of installation. It transmits these parameters to the wireless network as well as key commands on the touch display.

The aluminium function brace contains a further touch sensor which is parameterisable using a wireless function.

In addition there are another 8 touch buttons which are user definable.

A labelling foil can be printed and inserted here.

The front panel is made of glass. The housing behind it is made of ABS plastic, white or black.

It is 82 mm high, 197 mm wide and 18.5 mm deep to the wall.

the connection part projects 34 mm into the flush mounted box.

The 24 V DC source is a switch mode power supply unit FSNT61-24 V/6 W in a deep flush mounted box behind the room control unit or in a second flush mounted box.

The actual temperature is measured in a range from 0 to 50°C, ± 0.5 K. Relative humidity is measured in a range from

0 to 100% rh or ± 3% rh in the range 20 to 80% rh.

The reference temperature is directly set on the display. Startup and parameterisation are carried out using the thanos software which is downloadable from thermokon.de.



The wireless sensor can be taught-in into all actuators and the wireless visualization and control software.

thanos L SRQ white	Multifunction room control unit, horizontal, white	EAN 4010312313671	**533,- €/pc.**
thanos L SRQ black	Multifunction room control unit, horizontal, black	EAN 4010312313688	**533,- €/pc.**

Recommended retail prices excluding VAT.

FSU55D-

min



Wireless timer with display and with 8 channels for individual fitting and integration in the 55x55 mm and 63x63 mm switch system.
With 'astro' function and solstice time changes.
Only 0.2 watt standby loss.

The scope of supply includes a frame R, an intermediate frame ZR in the same colour and a mounting plate. In addition, an intermediate frame ZRF in the same colour is supplied for installation in an existing frame R1F, R2F or R3F for flat pushbuttons.
Power supply 12 V DC.
A 20 cm long black/blue connecting wire is routed to the rear.

Before screwing on, remove the frame and intermediate frame from the mounting plate. To do this, press out the catches on the mounting plate. Then screw on the mounting plate - with the catches at the top and bottom -, snap on the frame and the intermediate frame, and connect and snap on the timer.

We recommend sheet metal countersunk screws 2.9x25 mm, DIN 7982 C, for screw connections on 55 mm switch boxes.
See Accessories on page Z-6.

Up to 60 timer memory locations are freely assigned to the channels. With date and automatic summer/winter time changeover. Ca. 7 days power reserve without battery.

The timer is set using the MODE and SET buttons and the settings can be interlocked.

20 seconds after you last press MODE or SET, the program returns automatically to normal display.

Set language: Every time the power supply is applied, press SET within 10 seconds to set the language and press MODE to confirm. deutsch, english, francais, espanol and italiano. The normal display then appears: weekday, date and time.

Rapid scroll: In the settings below, the numbers increment rapidly when you press and hold down the input button for longer. Release then press and hold down to change the scroll direction.

Set clock: Press MODE then press SET to search for the ***clock*** **function.** Select by pressing MODE. Press SET to select the hour, then press MODE to confirm. Proceed in the same way to select the minutes.

Set date: Press MODE then press SET to search for the ***date*** **function.** Select by pressing MODE. Press SET to select the year, then press MODE to confirm. Proceed in the same way for month and day. The last setting in the sequence is the weekday. Press SET to set it.

Set geographic position (if the astro function is required): Press MODE then press SET to search for the ***position*** **function.** Select by pressing MODE. At *lat.* press SET to select the latitude and press MODE to confirm. Repeat this procedure to select the longitude and press MODE to confirm. Then press SET to select the time zone and press MODE to confirm. The last settings in the sequence are the winter solstice and summer solstice. If required, press SET to select a time shift by up to ± 2 hours and press MODE to confirm.

Manual switching: Press MODE then press SET to search for the ***operating mode*** **function.** Select by pressing MODE. Press SET to change the channel and press MODE to confirm. Then press SET to select between *automatic, on* or *off.* When you press MODE to confirm *on* or *off,* the appropriate telegram is sent immediately. When you press MODE to confirm *automatic,* switching programs are executed. Exit the operating mode by pressing and holding down MODE for longer than 2 seconds.

Summer/winter time changeover: Press MODE then press SET to search for the ***summer/wintertime automatic*** **function.** Select by pressing MODE. Then press SET to change between *active* and *inactive.* When you select *active,* switchover takes place automatically.

Teach in channels in actuators: Press MODE then press SET to search for the ***learn*** **function.** Select by pressing MODE. Press SET to change the channel and press MODE to confirm. Then press SET to change change between *on* and *off.* When you press MODE to confirm *on,* press SET at *send* to teach in the on function in an actuator which is ready for teach-in. *off* is taught-in using the same procedure.

Switch random mode on/off: Press MODE then press SET to search for the ***random*** **function.** Select by pressing MODE. Then press SET to change between *inactive* and *active.* When you select *active,* the switching times of all channels are shifted at random by up to 15 minutes. Switch-on times to earlier and switch-off times to later.

Lock settings: Briefly press MODE and SET together and at *lock* press SET to lock. This is displayed by an arrow next to the lock symbol.
Unlock settings: Press MODE and SET together for 2 seconds and at *unlock* press SET to unlock.

The wireless sensor can be taught-in into the following actuators and the wireless visualization and control software:
all actuators except for FZK12/14, FZK61, FZK70 and FUTH55D.

FSU55D-ws	Timer with display white	EAN 4010312303740	**84,90 €/pc.**
FSU55D-rw	Timer with display pure white	EAN 4010312303764	**84,90 €/pc.**
FSU55D-an	Timer with display anthracite	EAN 4010312303795	**84,90 €/pc.**
FSU55D-sz	Timer with display black	EAN 4010312303771	**84,90 €/pc.**
FSU55D-wg*	Timer with display pure white glossy	EAN 4010312303788	**84,90 €/pc.**
FSU55D-al	Timer with display coated/aluminium paint	EAN 4010312305454	**93,70 €/pc.**

* The bottom of the housing is matt.

Recommended retail prices excluding VAT.

FTR55H-CH-w



(without frame)

Wireless temperature controller with hand wheel for surface mounting or integration in the 55x55 mm and 63x63 mm switch system. Power supply with the integrated solar cell or a 12 V DC power supply unit.

For Swiss cover frames from ABB Normelec, Feller and Hager.

The scope of supply comprises the FTR55H and one intermediate frame with mounting base in white (61) and one adhesive foil.

Description see FTR55H. Also available in light grey hg (65) and black sz (60).

FTR55H-CH-w	Temperature controller with hand wheel, white (61)	EAN 4010312312155	**90,80 €/pc.**

FTR55D-CH-w



(without frame)

Wireless temperature controller with display for surface mounting or integration in the 60x60 mm switch system. Own power supply from integrated solar cell.

For Swiss cover frames from ABB Normelec, Feller and Hager.

The scope of supply comprises the FTR55D and one intermediate frame with mounting base in white (61) and one adhesive foil.

Description see FTR55D.

Also available in light grey hg (65) and black sz (60).

FTR55D-CH-w	Temperature controller with display, white (61)	EAN 4010312305065	**145,30 €/pc.**

FEA55D-CH-w



(without frame)

Wirless energy consumption indicator with display for individual fitting or integration in the 60x60 mm switch system. Standby loss 0.8 watt only.

For Swiss cover frames from ABB Normelec, Feller and Hager.

The scope of supply comprises the FEA55D and one intermediate frame with the mounting base in white (61).

Description see FEA55D.

Also available in light grey hg (65) and black sz (60).

FEA55D-CH-w	Energy consumption indicator with display, weiss (61)	EAN 4010312304419	**84,90 €/pc.**

FSU55D-CH-w



(without frame)

Wireless timer with display and with 8 channels for individual fitting or integration in the 60x60 mm switch system. With 'astro' function and solstice time changes. Only 0.2 watt standby loss.

For Swiss cover frames from ABB Normelec, Feller and Hager.

The scope of supply comprises the FSU55D and one intermediate frame with the mounting base in white (61).

Description see FSU55D.

Also available in light grey hg (65) and black sz (60).

FSU55D-CH-w	Timer with display, white (61)	EAN 4010312305096	**84,90 €/pc.**

Recommended retail prices excluding VAT.

Chart
Wireless Sensors that can be taught-in in Wireless Actuators

Sensors / Actuators	Pushbuttons and hand-held transmitters FT2S, FT4F FT4, FFT55Q, FMT55, FHS4 FHS6, FHS8 FHS12, FMH2 FMH4, FMH8	Trans-mitter modules FSM12 F8S12 FSM61 FTS12EM FTS12FA FSU55D FSU14	Card switch, pull switch and smoke alarm FKF FKC FZS FRW	Window/ door contact FTK	Hoppe window handle FHF	Motion/ brightness sensors FBH63 FABH63 SR-MDSBAT	Brightness sensors FAH60 FAH63 FIH63AP	Temperature controller/ sensors FTR55H FTR55D FTF55, FUT55D FUTH55D FAFT60, FIFT63 thanos [3]	Control from a PC using software GFVS
F4HK14	X	X		X	X	X [4]		X	X
FAE14LPR	X	X		X	X	X [4]		X	X
FAE14SSR	X	X		X	X	X [4]		X	X
FFR14	X	X							X
FHK14	X	X		X	X	X [4]		X	X
FMS14	X	X	X						X
FMZ14	X	X	X	X	X				X
FSB14	X	X		X	X		X		X [2]
FSG14/1-10 V	X	X		X	X	X	X		X [2]
FSR14-2x	X	X	X	X	X	X	X		X
FSR14-4x	X	X	X	X	X	X	X		X
FSR14SSR	X	X	X	X	X	X	X		X
FTN14	X	X		X		X			X
FUD14/800 W	X	X		X	X	X	X		X [2]
FUD14	X	X		X	X	X	X		X [2]
FZK14			X	X	X	X [4]			
FADS60	X	X		X	X	X [4]			X
FFR61-230 V	X	X							X
FGM	X	X	X	X	X	X [4]			X
FHK61-230 V	X	X		X	X	X [4]		X	X
FHK61/8-24 V UC	X	X		X	X	X [4]		X	X
FHK61SSR	X	X		X	X	X [4]		X	X [2]
FHK70-230 V	X	X		X	X	X [4]		X	X
FKLD61	X	X				X	X		X [2]
FKR70/1-10 V	X	X				X	X		X
FKR70UD-230 V	X	X				X	X		X
FLC61NP-230 V	X	X	X			X	X		X
FLS70/1-10 V	X	X				X			X [2]
FLS70UD-230 V	X	X				X			X [2]
FMD70-230 V	X	X				X	X		X [2]
FMS61NP-230 V	X	X							X
FMZ61-230 V	X	X	X	X	X				X
FSB61NP-230 V	X	X		X	X		X		X [2]
FSB70-230 V	X	X		X	X		X		X [2]
FSG70/1-10 V	X	X							X
FSR61-230 V	X	X	X	X	X	X [4]	X		X
FSR61/8-24 V UC	X	X	X	X	X	X [4]	X		X
FSR61G-230 V	X	X	X	X	X	X [4]	X		X
FSR61LN	X	X	X	X	X	X [4]	X		X
FSR61NP-230 V	X	X	X	X	X	X [4]	X		X
FSR61VA	X	X	X	X	X	X [4]	X		X
FSR70-230 V	X	X	X	X	X	X [4]	X		X
FSR70S-230 V	X	X	X			X [4]	X		X
FSSA-230 V	X	X							X
FSUD-230 V	X	X							X [2]
FSVA-230 V	X	X							X
FTN61NP-230 V	X	X		X		X			X
FUA55LED	X	X		X	X	X			X
FUD61NP-230 V	X	X				X	X		X [2]
FUD61NPN-230 V	X	X				X	X		X [2]
FUD70-230 V	X	X				X	X		X [2]
FUD70S-230 V	X	X							X [2]
FUTH55D				X	X				
FZK61NP-230 V			X	X	X	X [4]			
FZK70-230 V			X	X	X	X [4]			
F2L61-230 V	X	X		X	X			X	X
F2L70-230 V	X	X		X	X			X	X

[1] Only FTR55H, FTR55D, FUT55D and FUTH55D [2] Also controllable by activation telegrams from the FVS software 23.01.2013
[3] thanos LSR, LSRQ and SSR can be taught-in in all actuators and in the FVS software [4] Only motion detection

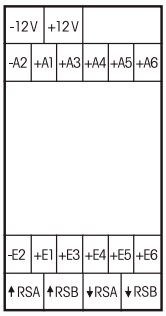


Pushbutton input module FTS12EM	3-0
NEW Wireless output module FTS12FA	3-1
Wireless Powernet connector FPV12	3-2
Wireless Powernet meter connector FPZ12	3-3
Wireless Powernet repeater FPR12 and wireless Powernet phase coupler FPP12	3-4

FTS12EM-UC

min | UC 8-253 V AC 10-230 V DC | RS485





Pushbutton input module for the Eltako RS485 bus, 10 control inputs for universal control voltage. Only 0.3 watt standby loss.

Modular device for DIN-EN 60715 TH35 railmounting. 2 modules = 36 mm wide, 58 mm deep.

Direct connection to Eltako series 12 RS485 bus, terminals RSA and RSB, or to Eltako series 14 RS485 bus by means of Gateway FGW14.

5 control inputs may be connected to different potentials since they are electrically isolated. Control voltage 8 to 253 V AC or 10 to 230 V DC.

A 12 V DC voltage is supplied from a switching power supply unit FSNT12-12 V/12 W which has a width of only 1 module.

Series 12: One FAM12 wireless antenna module and up to 10 FTS12EM switch input modules and FSU12D timers may be switched in series with the RS485 bus. The FAM12 wireless antenna module must then be connected upstream of the FTS12EM.

Series 14: Up to 10 FTS12EM devices can be connected to the FGW14.

The rotary switch assigns a separate ID range to a maximum of 10 FTS12EM's.
1 = ID 1-10; 11 = ID 11-20; 21 = ID 21-30 etc.

An ID from the above listed range is assigned to each pushbutton during teach-in as specified in the user's manual for each actuator.

If two pushbuttons are defined as direction switch, the two pushbuttons must be taught-in as direction switches in an actuator. Control inputs are then defined in pairs for the direction 'ON', 'central ON', 'UP' and 'BRIGHTER' and control inputs 'OFF', 'central OFF', 'DOWN' and 'DARKER': A1/A3, A4/A5, A6/E6, E1/E3 and E4/E5.

A1, A6 and E1 ≙ wireless pushbutton right upper part
A3, E3 and E6 ≙ wireless pushbutton right bottom part
A4 and E4 ≙ wireless pushbutton left upper part
A5 and E5 ≙ wireless pushbutton left bottom part

From production week 30/2011 2 pushbuttons for light scenes with 4 light scenes each can be taught-in in the Eltako wireless network with this pushbutton input module.

The LED under the rotary switch flashes once if a connected pushbutton is operated.

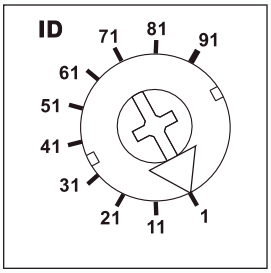
If the lines of the RS485 bus are longer than 2 m, a terminating resistor of approx. 220 ohms must be connected **to the last actuator** at terminal RSA/RSB in series 12 systems; in series 14 systems, a terminating resistor must be connected.

Control current at 8/12/24 V AC/DC: 2.5/4/9 mA.

Control current at 230 V AC/DC (< 5 s): 5(100) mA.

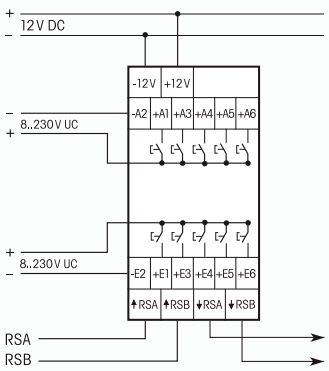
This pushbutton is not only used as a complement to the Eltako wireless network to feed signals into the RS485 bus in addition to the wireless antenna module, but it is also the basic device for the remote switch system FTS12.

ID rotary switch



Standard setting ex works.

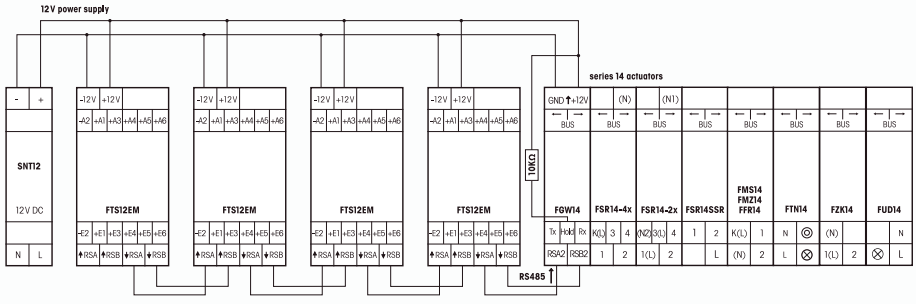
Typical connection wireless series 12



Possibly by a wireless antenna module FAM12

To other FTS12EMs or FTS12FAs or FSU12Ds and then to the RS485 bus actuators

Typical connection wireless series 14 without FAM14

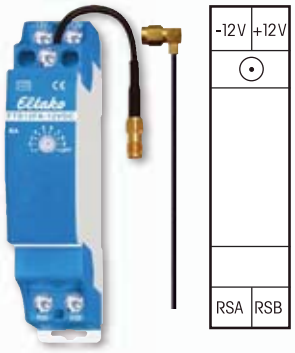


FTS12EM-UC	Pushbutton input module	EAN 4010312301203	**55,30 €/pc.**

Recommended retail prices excluding VAT.

FTS12FA-12 V DC

min | RS485



The enclosed small antenna can be replaced with a wireless antenna FA250 with magnetic base and cable.

Wireless output module for FTS12 systems without FAM12 or FAM14. Only 0.5 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.
1 module = 18 mm wide, 58 mm deep.

Connection to the output terminals RSA and RSB of the last FTS12EM. Possibly followed by FSU12D and RS485 bus actuators.

With a rotary switch you can select between two operating modes.

Rotary switch on the FTS12FA set to position 1: Every pushbutton telegram of the FTS12EM will be sent to the Eltako wireless network with an own ID.

Rotary switch on the FTS12FA set to position 2: Pushbutton telegrams of the FTS12EM will be sent to the Eltako wireless network in pairs with the same ID.

4 direction pushbuttons: A1/A3 send 70/50 (= wireless pushbutton right half up/down)
A4/A5 send 30/10 (= wireless pushbutton left half up/down)
E1/E3 send 70/50 (= wireless pushbutton right half up/down)
E4/E5 send 30/10 (= wireless pushbutton left half up/down)

2 universal pushbuttons: A6 sends 0x70
E6 sends 0x50

The green LED under the rotary switch will flash shortly when a wireless telegram is sent.
Rotary switch on the FTS12FA set to position 10: OFF. The FTS12FA is switched off.

January 2012.

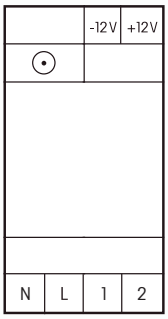
FTS12FA-12 V DC	Wireless output module	EAN 4010312314913	**62,30 €/pc.**

Recommended retail prices excluding VAT.

FPV12-12V DC

min





Wireless Powernet connector to input and output wireless telegrams into and out of the 230V power system. With 32 data channels. Only 0.7 watt standby loss. Also settable as repeater. If required, a wireless antenna FA250 or FA200 can be connected.

Modular device for DIN-EN 60715 TH35 rail mounting.
2 modules = 36mm wide, 58mm deep.

FPV12s are used to input wireless telegrams into the power mains and output them to the Eltako wireless network at another location. An FPV12 can operate in both directions. Up to four FPV12s and FPV12USBs can be combined into a group to enter or output telegrams at various points in the power mains.

The 12V DC power supply is provided by a switching power supply unit FSNT12-12V that is only 1 or 2 modules wide. With a power consumption of 12W or 24W, it can also power actuators as a rail mounted device.

The length of the 230V transmission line between input and output can be up to 300 metres. It is dependent on the contact resistance of the intermediate connections and the cable layout. If Powernet telegrams are not coupled into other external cables via parallel lines, this can be arranged using a phase coupler FPP12 so that output can be made to any line.

Up to 32 sensors with their fixed ID numbers saved can be taught-in in the input FPV12. When these sensors are taught-in in the actuators, new unique ID numbers are issued by the output FPV12. This ensures that the actuators only execute the commands of the output FPV12, even if the original wireless telegrams arrive there.

Every FPV is equipped with a **fault relay** for safety applications. This closes the floating contact 1-2 for 3 seconds if the output FPV sends no receive confirmation within a preset time or the data buffer overflows.

Up to 24 consecutive incoming wireless telegrams are buffered and pushbutton signals are transferred as first priority. Transmission takes place in compliance with CENELEC B in the range from 95 to 125KHz at up to 2.5Kbps.

The **red LED** accompanies the teach-in process and indicates incoming wireless telegrams in operation by blinking briefly. The green LED indicates received Powernet telegrams in operation by blinking briefly.

FPV12-12V DC	Wireless Powernet connector	EAN 4010312305249	**208,90 €/pc.**

FPV12USB-12V DC

min



Wireless Powernet connector to input wireless telegrams from the FVS-Safe server into the 230V power mains and to output wireless telegrams from the 230V power mains via the USB interface directly to a FVS-Safe server. Only 0.7 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.
2 modules = 36mm wide, 58mm deep.

Up to four FPV12s and FPV12USBs can be combined into a group to enter or output telegrams at various points in the power mains.

For power supply, cable length and fault relay, see the FPV12-12V DC description.

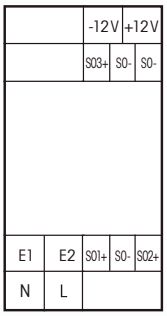
FPV12USB-12V DC	Wireless Powernet connector	EAN 4010312311219	**199,80 €/pc.**

Recommended retail prices excluding VAT.

FPZ12S0-12 V DC

min





Wireless Powernet meter connector with 3 S0 inputs to enter meter telegrams into the 230 V power mains. Only 0.7 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.
2 modules = 36 mm wide, 58 mm deep.

To input meter telegrams in the power mains, up to 10 FPZ12S0s and therefore 30 meters can be connected to form one group.

Up to 3 meters and their meter readings can be metered in the input FPZ12 via the display by pressing MODE and SET. At the same time, you can define from which output FPZ12 meter messages can be evaluated.

Meter telegrams can be output from the power mains either by one or several FPZ12USBs and their USB interfaces directly into an FVS-Safe or by FPZ12Fs into Eltako wireless networks.

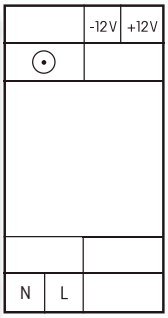
For power supply and cable length, see the FPV12-12 V DC description.

FPZ12S0-12V DC	Wireless Powernet meter connector	EAN 4010312311387	**183,80 €/pc.**

FPZ12F-12 V DC

min





Wireless Powernet meter connector to output meter telegrams from the 230 V power mains into the Eltako wireless network. With exchangeable antenna. Only 0.7 watt standby loss. If required, a wireless antenna FA250 or FA200 can be connected.

Modular device for DIN-EN 60715 TH35 rail mounting.
2 modules = 36 mm wide, 58 mm deep.

To output meter telegrams into the Eltako wireless network, up to 30 FPZ12Fs for 30 meters can be connected to form a group. Every FPZ12F sends only telegrams whose authorisation are saved in the input FPZ12S0.

For power supply and cable length, see the FPV12-12 V DC description.

FPZ12F-12V DC	Wireless Powernet meter connector	EAN 4010312311394	**232,00 €/pc.**

FPZ12USB-12 V DC

min



Wireless Powernet meter connector to output meter telegrams from the 230 V power mains into the Eltako building wireless network. Only 0.7 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.
2 modules = 36 mm wide, 58 mm deep.

To output meter telegrams in the power mains in up to 30 server networks, up to 30 FPZ12USBs for 30 meters can be connected to form one group. Every FPZ12USB sends only telegrams whose authorisation is saved in the input FPZ12S0.

For power supply and cable length, see the FPV12-12 V DC description.

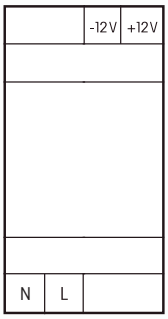
FPZ12USB-12V DC	Wireless Powernet meter connector	EAN 4010312311400	**199,80 €/pc.**

Recommended retail prices excluding VAT.

FPR12-12 V DC

min





Wireless Powernet repeater for the Powernet connectors FPV12 and the Powernet meter connectors FPZ12. Only 0.7 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.
2 modules = 36 mm wide, 58 mm deep.

The 12 V DC power supply is provided by a switching power supply unit FSNT12-12 V that is only 1 or 2 modules wide. With a power consumption of 12 W or 24 W, it can also power actuators as a rail mounted device.

The length of the 230 V transmission line between the input Powernet connector and the repeater can be up to 300 metres. It is dependent on the contact resistance of the intermediate connections and the cable layout. The repeater also lengthens the distance by up to 300 metres.

Up to 10 FPZ12SO devices can be taught-in for up to 30 meters. Two connected FPV12 devices require no teach-in since the rotary switch settings are sufficient for this.

Up to 24 consecutive incoming wireless telegrams are buffered and pushbutton signals are transferred as first priority. Transmission takes place in compliance with CENELEC B in the range from 95 to 125 KHz at up to 2.5 Kbps.

The **green LED** under the bottom rotary switch accompanies the teach-in process according to the operating instruction and indicates incoming Powernet telegrams in operation by blinking briefly.

FPR12-12V DC	Wireless Powernet repeater	EAN 4010312312162	**159,80 €/pc.**

FPP12

min





Wireless Powernet phase coupler to transmit wireless telegrams over the 230 V power mains. Only 0.2 watt standby loss.

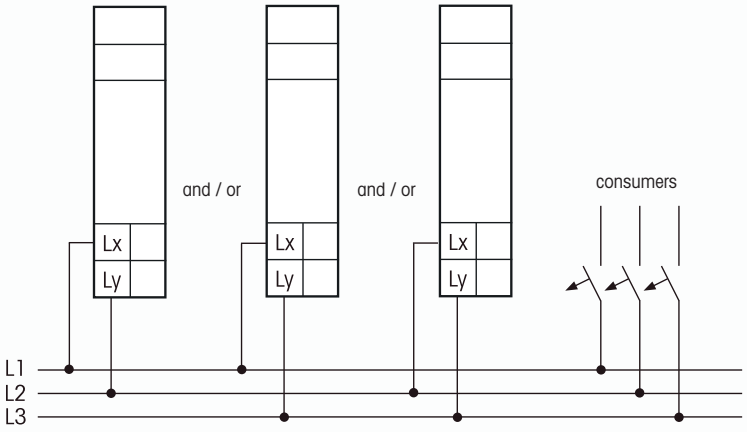
Modular device for DIN-EN 60715 TH35 rail mounting.
1 module = 18 mm wide, 58 mm deep.

Voltage between the two outer conductors: 400 V/50 Hz.

The phase coupler increases the capacitive coupling between 2 different outer conductors if, for example, the cables within the installation are not laid in parallel at a distance of at least several metres apart (as ribbon cables or jacketed cables).

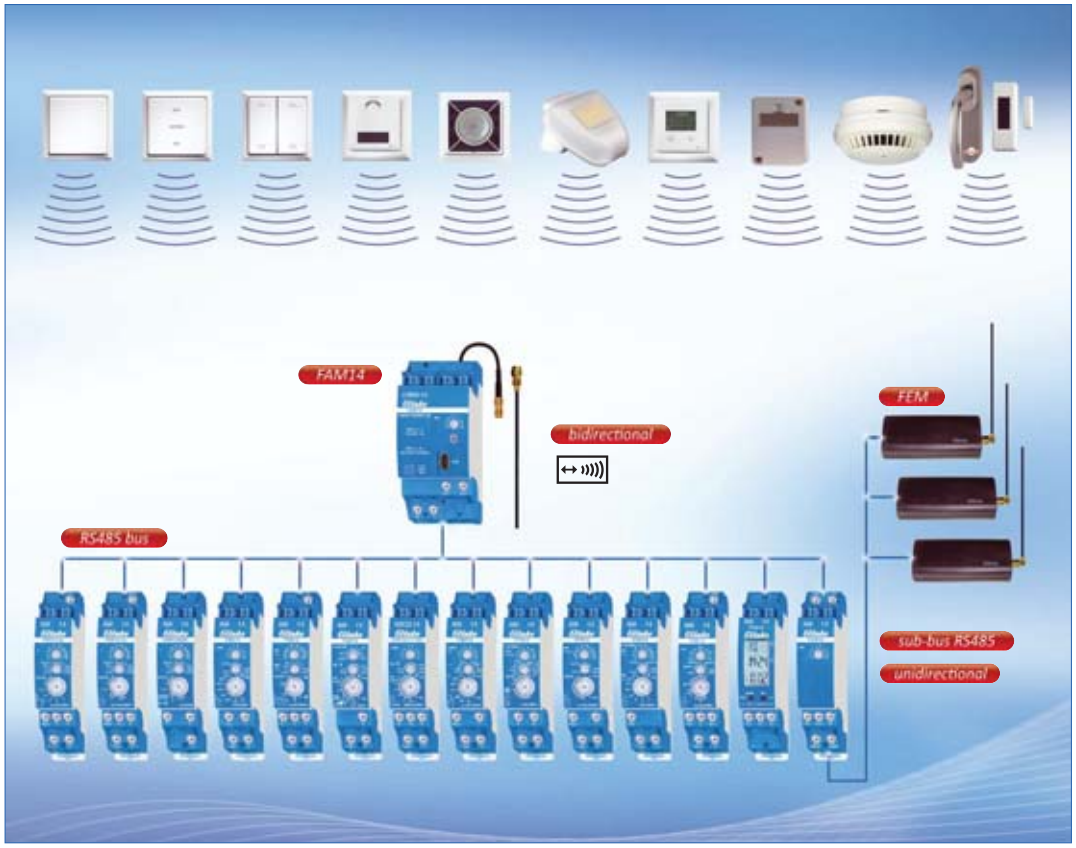
Caution: The phase coupler may only be connected to the input side of the line circuit-breaker.

Typical connection



FPP12	Wireless Powernet phase coupler	EAN 4010312311769	**25,40 €/pc.**

Recommended retail prices excluding VAT.



Series 14 components	4-0
Wireless antenna module FAM14, wireless receiver antenna module FEM and wireless antennas with magnetic foot FA250 and FA200	4-1
Gateway FGW14, bus coupler FBA14 and wireless GSM receiver FGSM14	4-2
PC tool PCT14	4-4
Actuator 4-channel impulse switch FSR14-4x	4-5
Actuator 2-channel impulse switch FSR14-2x	4-6
Actuator 2-channel impulse switch, noiseless FSR14SSR	4-7
Actuator multifunction impulse switch with integrated relay function FMS14	4-8
Actuator for shading elements and roller shutters FSB14	4-9
Universal dimmer switch FUD14 and FUD14/800W	4-10
Capacity enhancer FLUD14 for universal dimmer switch FUD14/800W	4-12
Actuator controller FSG14 for electronic ballast 1-10V	4-14
Actuator multifunction time relay FMZ14	4-15
Actuator staircase lighting time delay switch FTN14	4-16
Actuator mains disconnection relay FFR14	4-17
Actuator time relay for card switch or smoke alarm FZK14	4-18
Actuator heating/cooling relay FHK14 NEW Actuator 4-channel heating/cooling relay F4HK14	4-19
Display timer FSU14	4-21
Multifunction sensor relay FMSR14	4-22
NEW Wireless single-phase energy meter transmitter module FWZ14	4-23
Three-phase energy meter DSZ14DRS NEW Two-way three-phase energy meter DSZ14WDRS	4-24
Wireless repeater FRP14, housing for operating instructions GBA14 and spacer DS14	4-26
Maximum configuration with 4 gateways and 3 wireless receiver modules	4-27
Connection example: wireless antenna module with downstream wireless switch actuators	4-28
Pushbutton Input Module FTS12EM combined with Series 14 – RS485 bus actuators	4-29
Technical data switching actuators and dimming actuators for the Eltako RS485 bus	4-30
Power requirement	4-31

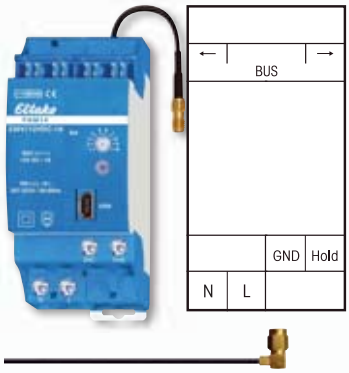
A) Big and little helpers

FAM14	The bidirectional wireless antenna module receives wireless telegrams within its reception range and feeds them to the RS485 bus. The reception range can be extended by connecting an external antenna to the FAM14. Actuator confirmation telegrams are sent over the wireless network. The antenna module also comprises a switch mode power supply unit to supply 12V DC to bus components and is therefore 2 modules wide. Power supply and bus lines can be cross-wired by jumpers. Supplied with an repluggable terminating resistor.
FEM	Up to three additional wireless receiver modules in a separate mini-housing can be installed at any point in the building and connected to the main bus by a 4-wire screened sub-bus line (e.g. telephone line). The reception range can be extended by connecting an external antenna to each FEM.
FGW14	The gateway is only 1 module wide but has multiple uses: to couple up to three FEMs, up to 10 FTS12EMs, for direct connection to the FVS-Safe computer, to connect Series 12 bus components, an RS232 interface or as a bus connector for two Series 14 RS485 buses.
FBA14	The 1 module wide bus coupler is required for bus connections by wire to other DIN rails or other distributor panels. The 4 bus and power supply conductors cross-wired by means of jumpers are hooked up to input or output terminals.
FRP14	The 1 module wide repeater with its own antenna can be used inside the building for a distributed arrangement of Series 14 actuators so that sensor wireless telegrams can reach the wireless antenna module safely if one FEM is insufficient.
FGSM14	The 3 modules wide GSM receiver links smartphones directly to the bus over the mobile radio network. Actuators can therefore be easily addressed by encrypted text messages sent from an Eltako app.
DS14	Spacer (½ module width) for keeping the ventilation distance at very hot DIN rail devices e.g. dimmers and power supplies.
GBA14	Housing for operating instructions, 1 module wide.
PCT14	Service program (PC Tool) for PC to acquire, edit, save and reimport the settings of the Eltako Wireless Building actuators of Series 14.

B) Actuators for switching, dimming, controlling and regulating

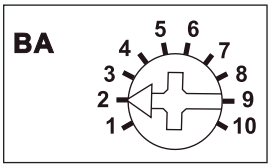
FSR14-4x	Impulse switch with four 4A channels, 1 module wide
FSR14-2x	Impulse switch with two 16A channels, 1 module wide
FSR14SSR	Noiseless impulse switch 400W with two solid state relays, 1 module wide
FMS14	Multifunction impulse switch with integrated relay function 1+1 NO contact 16A, 1 module wide
FSB14	Universal actuator for shading elements with two 230V channels for motors, 1 module wide, also Multisensor MS directly evaluatable by weather data tranmistter module FWS61
FUD14	Universal dimmer switch up to 400W, automatic lamp detection, 1 module wide with light scene control and constant light regulation
FUD14/800W	Universal dimmer switch up to 800W, ESL and LED lamps up to 400W, automatic lamp detection, 2 modules wide, switching capacity up to 3400W with capacity enhancers
FLUD14	Capacity enhancer for FUD14/800W, additionally up to 400W depending on circuit type, 1 module wide.
FSG14/1-10V	Dimming actuator controller for electronic ballast, 600VA, 1-10V control output, 1 module wide with light scene control and constant light regulation.
FMZ14	Multifunction time relay with 10 functions, 1 changeover contact 10A, 1 module wide
FTN14	Staircase lighting time delay switch 16A, 1 module wide
FFR14	Mains disconnection relay for 2 circuits, 1+1 NO contact 16A, 1 module wide
FZK14	Time relay for card switch or smoke alarm, 16A, 1 module wide
FHK14	Heating/cooling relay with 2 channels, 1+1 NO contact 4A, 1 module wide
F4HK14	Heating/cooling relay with 4 channels, 1 NO contact 4A per channel, 1 module wide
FSU14	Display timer with astro function, 8 channels, 1 module wide
FMSR14	Multifunction sensor relay, 5 channels, 1 module wide evaluates wireless telegrams from the wireless weather data transmitter module FWS61
FWZ14	Wireless single-phase energy meter transmitter module, maximum current 65A, 1 module wide
DSZ14DRS	Three-phase energy meter 3x65A with MID, 4 modules wide
DSZ14WDRS	Two-way three-phase energy meter 3x5A with MID, 4 modules wide

FAM14



The enclosed small antenna can be replaced with a wireless antenna FA250 with magnetic base and cable.

Mode switch



Standard setting ex works.

Wireless antenna module for the Eltako RS485 bus with exchangeable antenna. With integrated power supply unit 12 V DC-1 A. Only 1 watt standby loss. If required, a wireless antenna FA250 or FA200 can be connected.

Modular device for DIN-EN 60715 TH35 rail mounting. 2 module = 36 mm wide, 58 mm deep.
Supply voltage 230 V.
The delivery includes 2 terminators with printing Ω, 1/2 module, 3 jumpers 1 module (including 1 spare), 2 jumpers 1/2 module (including 1 spare).

The wireless antenna module FAM14 receives and tests all signals from wireless transmitters and repeaters within the receiving range. These are transmitted via an RS485 interface to RS485 bus switching actuators connected in series:

Up to 126 channels can be connected to the Eltako RS485 bus. Bus cross wiring and power supply with jumper.

If the cables of the RS485 bus are longer than 2 m, the attached second terminating resistor has to be pinned **to the last actuator.**

Mini USB to connect to a PC, to create an equipment list, to configurate the actuators using the PC tool PCT14 and for data backup. A legalisation code to download the PCT14 from the Eltako website www.eltako.de is supplied with the FAM14.

Gateways FGW14 will be connected to the terminals HOLD and GND when they connect a PC with a RS232 bus and/or up to 3 wireless receiver modules FEM with a sub-bus RS485.

The operating mode rotary switch BA can set 10 different operating modes as described in the operating instructions.

The upper LED displays all perceived wireless commands in the reception area by short flickering.

The bottom LED lights up green if a connection from the PC tool PCT14 to the FAM14 was created. When reading or writing date the LED flashes green. The green LED goes out if the connection from the PC tool PCT14 to the FAM14 was terminated.

FAM14	Wireless antenna module	EAN 4010312313695	**97,80 €/pc.**

FEM



WEEE registration number
DE 30298319

Wireless receiver antenna module for the RS485 sub-bus.

SMA socket for small enclosed antenna.

The reception range can be increased by placing a larger wireless antenna FA250 in the optimised position.

Housing dimensions LxWxH: 78x40x22 mm.

Up to three wireless receiver modules in a separate mini-housing can be installed at any point in the building in addition to an FAM14 and connected via a Gateway FGW14 to the main bus by a 4-wire screened sub-bus line (e.g. telephone line).

FEM	Wireless receiver antenna module	EAN 4010312313848	**70,80 €/pc.**

FA250 and FA200



Wireless antennas with magnetic base

The small enclosed wireless antenna of the wireless antenna modules FAM14 can be replaced by a larger antenna to feed wireless signals into metallic switching cabinets. It is mounted on the magnetic base externally and the cable is routed inside the cabinet to the FAM14.

FA250	Wireless antenna with 250 cm cable	EAN 4010312300244	**19,90 €/pc.**
FA200	High-performance receive antenna with 200 cm cable	EAN 4010312303306	**64,70 €/pc.**

Recommended retail prices excluding VAT.

FGW14

min | RS485 | ↔)))





Multiple Gateway. Bidirectional. Only 0.5 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.
1 module = 18 mm wide, 58 mm deep.

The gateway is only 1 module wide but has multiple uses: to couple up to three FEMs, up to 10 FTS12EMs, for direct connection to the FVS-Safe computer, to connect Series 12 bus components, an RS232 interface or as a bus connector for two Series 14 RS485 buses

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.

Additional wireless receiver modules FEM are connected in parallel to the sub-bus terminals RSA2 and RSB2 and to the power supply terminals GND and +12 V.
The Hold terminal is connected to the FAM14.

Up to 10 pushbutton input modules FTS12EM can be connected in series to the sub-bus terminals RSA2 and RSB2. If necessary in series with wireless receiver modules FEM.

If an FAM14 is fitted, the FTS12EMs are connected to the power supply by the GND and +12 V terminals of the FGW14 and also connected to the Hold terminals.

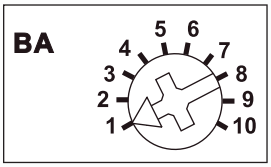
If no FAM14 is fitted, all devices are powered by a 12 V switch mode power supply unit FSNT12 or SNT12.

PC connection is by means of an additional FGW14 connected to terminals Tx and Rx.
The Hold terminal is connected to the FAM14.

Previously fitted Series 12 actuators are connected to the sub-bus terminals RSA2 and RSB2 of an additional FGW14. There is no Hold connection in this case.

The settings of the **operating mode rotary switch BA** are carried out as described in the operating instructions.

Mode switch



Standard setting ex works.

FGW14	Gateway	EAN 4010312313855	**56,60 €/pc.**

FBA14

RS485 | ↔)))





Bus coupler for wire connections of bus and power supply jumpers.

Modular device for DIN-EN 60715 TH35 rail mounting.
1 module = 18 mm wide, 58 mm deep.

Bus cross wiring and power supply with jumper.

Bus coupler FBA14 can connect various bus parts as well as feed power supplies.

Bus parts on different DIN rails or in other distributors or switch cabinets are each connected to an FBA14 and a 4-wire screened bus line, e.g. a telephone line. The total length of all connecting lines should not exceed 100m. A 9mm wide second terminating resistor (supplied with the FAM14) must be plugged into the last actuator.

The bus coupler may be positioned at any point in a Series 14 device row. The 4 wires of the bus line are connected to the -12 V, +12 V, RSA and RSB terminals of the two FBA14s. The jumper plugged in ex works to the lower terminal block must remain fitted to ←+12V→.

This jumper also remains fitted if a switch mode power supply unit FSNT12-12 V/12 W is connected to the +12 V and -12 V terminals to produce power supply redundancy.

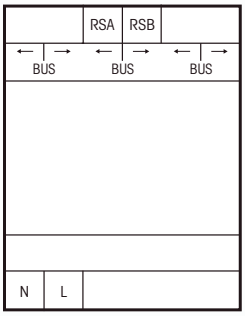
If the power supply of the switch mode power supply unit in the FAM14 is insufficient to power the entire RS485 bus, a switch mode power supply unit FSNT12-12 V/12 W can be connected to the -12V and +12V terminals of the bus coupler to increase capacity. In this case the jumper must be removed. Actuators to the left of the bus coupler are powered by the FAM14, actuators to the right are powered by the switch mode power supply unit.

FBA14	Bus coupler	EAN 4010312313862	**21,40 €/pc.**

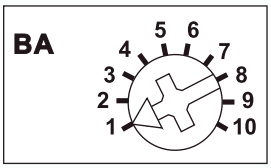
Recommended retail prices excluding VAT.

FGSM14





Mode switch



Standard setting ex works.

Wireless GSM module for the Eltako RS485 bus. Bidirectional. Standby loss max. 2 Watt. GSM antenna for German D and E networks is contained in the scope of supply.

DIN rail mounted device for fitting on mounting rail DIN-EN 60715 TH35.
3 modules = 54 mm wide, 58 mm deep.

The GSM module links smartphones directly to the bus over the mobile radio network. This is an easy way to address up to 16 Series 14 actuators on the same RS485 bus encrypted using the Eltako app. These report their status. Additionally 8 more status messages, for example for temperatures and error messages, are possible. A status overview takes place immediately when the app is activated in the smartphone.

Very simple and secure registration using **Eltako quickcon® technology.**

Download the app from the Google Android Store. The iPhone app is undergoing certification.

Power is supplied by an integrated switch mode power supply unit independent from the bus power supply. This requires a 230 V supply voltage.

If the GSM receiver is not installed at the same place in a distributor containing Series 14 actuators, the bus is connected to a bus coupler FBA14 using a 2-wire screened bus line (e.g. telephone line).

The price includes a data flat rate for 2 years. An enclosed application form for commissioning has to be completed and submitted. The activation takes place within a few hours. Access contracts are offered automatically.

February 2013.

FGSM14	Wireless GSM module	EAN 4010312314098	**419,00 €/pc.**

Recommended retail prices excluding VAT.

PCT14



The PC tool for Series 14

PCT14 is a PC-installed service program (PC Tool) to acquire, edit, save and reimport the settings of Eltako Series 14 building wireless system actuators.

It belongs to the scope of supply of the FAM14 and must be downloaded from the download page of the Eltako website at www.eltako.de. The legalisation code is contained in the FAM14 package.

Quick-start guide; after downloading the installation folder:

1. Hook up PC and FAM14

Use a USB cable to connect the PC to the mini-USB socket of the FAM14.

The driver, which is in the installation folder, may have to be installed.

When the connection is made, the used COM port is displayed in the status line.

2. Create device list; after installing the actuators

Right-click in the left window section to display the context menu.

Select the command 'Update device list and read device memory' from the context menu.

After the query for the RS485 bus, all the available devices are displayed.

Other actions can be carried out by executing context menu commands. Right-click to display the context menu. The status line is located at the lower border of the program window and contains information on the context menu commands.

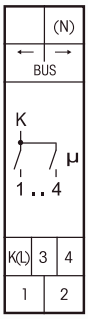
Click on 'Help' for more information.

PCT14	PC tool for Series 14	EAN 4010312314104	Included in the scope of supply of the FAM14

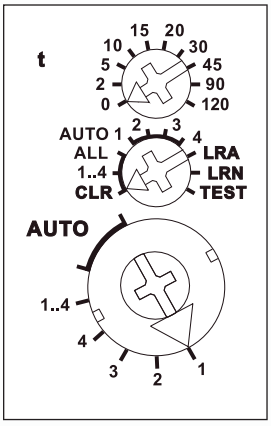
Recommended retail prices excluding VAT.

FSR14-4x





Function rotary switches



Standard setting ex works.

4-channel impulse switch with integrated relay function, 1 NO contact per channel 4 A/250 V AC, incandescent lamps 1000 watts, potential free from the power supply, with DX technology. Bidirectional. Only 0.1 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.
1 module = 18 mm wide, 58 mm deep.

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.

Patented Eltako Duplex technology allows you to switch normally potential free contacts in zero passage switching when 230 V A/C voltage 50 Hz is switched. This drastically reduces wear. To achieve this, simply connect the N conductor to the terminal (N) and L to K(L). This results in an additional standby consumption of only 0.1 watt.

When all 4 relays of the FSR14-4x are switched on, a power of 0.7 watts is required. If a power failure occurs, the device is switched off in a defined sequence.

The channels can be taught-in as ES and/or ER channel separately from each other.

Scene control:
Several channels of one or several FSR14-4x devices can be switched on or off in a scene by one of the four signals of a pushbutton with double rocker taught-in as a scene button.

Central commands on PC are sent using the FVS Wireless Visualisation and Control Software. To do this, teach-in one or several FSR14-4x devices.

Use the rotary switches to teach-in the buttons and test the 4 channels as required. For normal mode, the middle and lower rotary switches are then set to AUTO. With the upper rotary switch the EW time (0-120 seconds) is directly set for relays or the RV time (0-120 minutes) for impulse switches for all channels if necessary.

When wireless motion detector and brightness sensors FBH are taught-in, define the switching threshold separately for each channel using the top rotary switch. The switching threshold switches the lighting on or off depending on the brightness (also motion) (from approx. 30 lux in position 0 to approx. 300 lux in position 90). If the FBH is taught-in in position 120, it is only evaluated as a motion detector. A off delay of 1 minutes is a fixed setting in the FBH. An additionally set RV time is not taken into account.

When wireless brightness sensors FAH60 are taught-in, define the switching threshold separately for each channel using the top rotary switch. The switching threshold switches the lighting on or off depending on the brightness (from approx. 0 lux in position 0 to approx. 50 lux in position 120). A hysteresis of approx. 300 lux is permanently set for switch on/off. An additionally set RV time is not taken into account.

Only one FBH or FAH is taught-in per channel. However, one FBH or FAH can be taught-in in several channels.

When wireless window/door contacts FTK oder Hoppe window handles are taught-in, different functions can be set with the middle rotary switch in position AUTO 1 to AUTO 4 and linked to maximum 116 FTKs:
AUTO 1 = window closed then output active.
AUTO 2 = window open then output active.
In settings AUTO 3 and AUTO 4 the FTKs taught-in to a single channel are linked automatically. With AUTO 3 all FTKs must be closed so that the N/O contact closes (e.g. for climate control). With AUTO 4 one open FTK is sufficient to close the N/O contact (e.g. for an alarm signal or to switch on the power supply for an extractor hood).

One or several FTKs can be taught-in in several channels to allow several simultaneous functions in each FTK.
After a power failure the link is restored by a new signal to the FTK and a signal on the next status message 15 minutes later.

An additionally set RV time is not taken into account.

The LED below the upper function rotary switch performs during the teach-in process according to the operating instructions. It shows control commands by short flickering during operation.

Further settings can be made and actuators configured using the PC Tool PCT14.

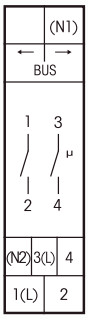
Connection example page 4-28.
Technical data, see page 4-30.
Housing for operating instructions GBA14 page 4-26.

FSR14-4x	RS485 bus actuator SR	EAN 4010312313701	**51,90 €/pc.**

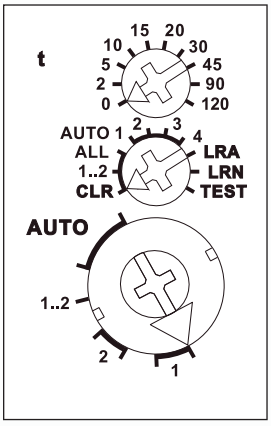
Recommended retail prices excluding VAT.

FSR14-2x





Function rotary switches



Standard setting ex works.

Further settings can be made and actuators configured using the PC Tool PCT14.

Connection example page 4-28.
Technical data, see page 4-30.

Housing for operating instructions GBA14 page 4-26.

2-channel impulse switch with integrated relay function, 1+1 NO contacts potential free 16 A/250 V AC, incandescent lamps 2000 watts, with DX technology. Bidirectional. Only 0.1 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.
1 module = 18 mm wide, 58 mm deep.

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.

Patented Eltako Duplex technology allows you to switch normally potential free contacts in zero passage switching when 230 V A/C voltage 50 Hz is switched. This drastically reduces wear. To achieve this, simply connect the N conductor to the terminal (N1) and L to 1 (L) and/or N to (N2) and L to 3 (L). This results in an additional standby consumption of only 0.1 watt.

During a power failure, the switching state will be retained.

The channels can be taught-in as ES and/or ER channel separately from each other.

Scene control:
Several channels of one or several FSR14-2x devices can be switched on or off in a scene by one of the four signals of a pushbutton with double rocker taught-in as a scene button.

Central commands on PC are sent using the FVS Wireless Visualisation and Control Software. To do this, teach-in one or several FSR14-2x devices.

Use the rotary switches to teach-in the buttons and test the 4 channels as required. For normal mode, the middle and lower rotary switches are then set to AUTO. With the upper rotary switch the EW time (0-120 seconds) is directly set for relays or the RV time (0-120 minutes) for impulse switches for all channels if necessary.

When wireless motion detector and brightness sensors FBH are taught-in, define the switching threshold separately for each channel using the top rotary switch. The switching threshold switches the lighting on or off depending on the brightness (also motion) (from approx. 30 lux in position 0 to approx. 300 lux in position 90). If the FBH is taught-in in position 120, it is only evaluated as a motion detector. A off delay of 1 minutes is a fixed setting in the FBH. An additionally set RV time is not taken into account.

When wireless brightness sensors FAH60 are taught-in, define the switching threshold separately for each channel using the top rotary switch. The switching threshold switches the lighting on or off depending on the brightness (from approx. 0 lux in position 0 to approx. 50 lux in position 120). A hysteresis of approx. 300 lux is permanently set for switch on/off. An additionally set RV time is not taken into account.

Only one FBH or FAH is taught-in per channel. However, one FBH or FAH can be taught-in in several channels.

When wireless window/door contacts FTK oder Hoppe window handles are taught-in, different functions can be set with the middle rotary switch in position AUTO 1 to AUTO 4 and linked to maximum 116 FTKs:
AUTO 1 = window closed then output active.
AUTO 2 = window open then output active.
In settings AUTO 3 and AUTO 4 the FTKs taught-in to a single channel are linked automatically. With AUTO 3 all FTKs must be closed so that the N/O contact closes (e.g. for climate control). With AUTO 4 one open FTK is sufficient to close the N/O contact (e.g. for an alarm signal or to switch on the power supply for an extractor hood).

One or several FTKs can be taught-in in several channels to allow several simultaneous functions in each FTK.
After a power failure the link is restored by a new signal to the FTK and a signal on the next status message 15 minutes later.

An additionally set RV time is not taken into account.

The LED below the upper function rotary switch performs during the teach-in process according to the operating instructions. It shows control commands by short flickering during operation.

FSR14-2x	RS485 bus actuator SR	EAN 4010312313718	**51,90 €/pc.**

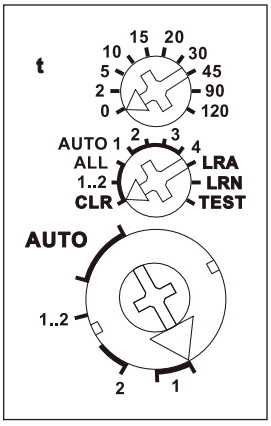
Recommended retail prices excluding VAT.

FSR14SSR





Function rotary switches



Standard setting ex works.

Further settings can be made and actuators configured using the PC Tool PCT14.

Connection example page 4-28.
Technical data, see page 4-30.

Housing for operating instructions GBA14 page 4-26.

Noiseless 2-channel impulse switch with integrated relay function, 400W. 2 solid state relays not potential free. Bidirectional. Only 0.1 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.
1 module = 18mm wide, 58mm deep.

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.

If both relays of the FSR14 are switched on, a power of 0.4 watts is required.

The rated switching capacity of 400W is applied for one contact and also for the sum of the two contacts. The parallel connection of multiple devices to increase power is allowed.

If a power failure occurs, the device is switched off in a defined sequence.

The channels can be taught-in as ES and/or ER channel separately from each other.

Scene control:
Several channels of one or several FSR14SSR devices can be switched on or off in a scene by one of the four signals of a pushbutton with double rocker taught-in as a scene button.

Central commands on PC are sent using the FVS Wireless Visualisation and Control Software. To do this, teach-in one or several FSR14SSR devices.

Use the rotary switches are taught-in, define the switching threshold separately for each channel using the top rotary switch. The switching threshold switches the lighting on or off depending on the brightness (also motion) (from approx. 30lux in position 0 to approx. 300lux in position 90). If the FBH is taught-in in position 120, it is only evaluated as a motion detector. A off delay of 1 minutes is a fixed setting in the FBH. An additionally set RV time is not taken into account.

When wireless motion detector and brightness sensors FBH are taught-in, define the switching threshold separately for each channel using the top rotary switch. The switching threshold switches the lighting on or off depending on the brightness (also motion) (from approx. 30lux in position 0 to approx. 300lux in position 90). If the FBH is taught-in in position 120, it is only evaluated as a motion detector. A off delay of 1 minutes is a fixed setting in the FBH.
An additionally set RV time is not taken into account.

When wireless brightness sensors FAH60 are taught-in, define the switching threshold separately for each channel using the top rotary switch. The switching threshold switches the lighting on or off depending on the brightness (from approx. 0lux in position 0 to approx. 50lux in position 120). A hysteresis of approx. 300lux is permanently set for switch on/off. An additionally set RV time is not taken into account.

Only one FBH or FAH is taught-in per channel. However, one FBH or FAH can be taught-in in several channels.

When wireless window/door contacts FTK oder Hoppe window handles are taught-in, different functions can be set with the middle rotary switch in position AUTO 1 to AUTO 4 and linked to maximum 116 FTKs:
AUTO 1 = window closed then output active.
AUTO 2 = window open then output active.
In settings AUTO 3 and AUTO 4 the FTKs taught-in to a single channel are linked automatically. With AUTO 3 all FTKs must be closed so that the N/O contact closes (e.g. for climate control). With AUTO 4 one open FTK is sufficient to close the N/O contact (e.g. for an alarm signal or to switch on the power supply for an extractor hood).

One or several FTKs can be taught-in in several channels to allow several simultaneous functions in each FTK.
After a power failure the link is restored by a new signal to the FTK and a signal on the next status message 15 minutes later.

An additionally set RV time is not taken into account.

The LED below the upper function rotary switch performs during the teach-in process according to the operating instructions. It shows control commands by short flickering during operation.

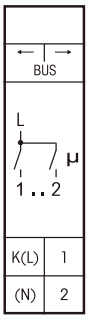
FSR14SSR	RS485 bus actuator SSR	EAN 4010312313893	**57,50 €/pc.**

Recommended retail prices excluding VAT.

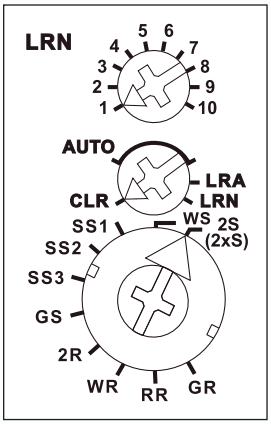
FMS14

min | central ON OFF | DX | RS485





Function rotary switches



Standard setting ex works.

Multifunction impulse switch with integrated relay function, 1+1 NO potential free 16 A/250 V AC, incandescent lamps 2000 W, with DX technology. Bidirectional. Only 0.1-0.6 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.
1 module = 18 mm wide, 58 mm deep.

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.

Patented Eltako Duplex technology allows you to switch normally potential free contacts in zero passage switching when 230 V A/C voltage 50 Hz is switched. This drastically reduces wear. To achieve this, simply connect the N conductor to the terminal (N) and L to K(L). This results in an additional standby consumption of only 0.1 watt.

Maximum current over both contacts 16 A for 230 V. If a power failure occurs, the device is switched off in a defined sequence.

When both relays of the FMS14 are switched on, 0.6 watt are required.

The upper and the middle rotary switches are for teaching-in the sensors. In normal mode, the middle rotary switch is then set to AUTO and the bottom rotary switch to the required function:

2S = Impulse switch with 2 NO contacts
(2xS) = 2-way impulse switch each with one NO relay
WS = Impulse switch with 1 NO contact and 1 NC contact (0.3 watt standby loss)
SS1 = Impulse multi circuit switch 1+1 NO contacts for switching sequence 1
SS2 = Impulse multi circuit switch 1+1 NO contacts for switching sequence 2
SS3 = Impulse multi circuit switch 1+1 NO contacts for switching sequence 3
GS = Impulse group switch 1+1 NO contacts
2R = Switching relay with 2 NO contacts
WR = Switching relay with 1 NO contact and 1 NC contact (0.3 watt standby loss)
RR = Switching relay (closed-circuit current relay) with 2 NC contacts (0.5 watt standby loss)
GR = Group relay 1+1 NO contacts

Switching sequence SS1: 0 - contact 1 (K-1) - contact 2 (K-2) - contact 1 + 2
Switching sequence SS2: 0 - contact 1 - contact 1 + 2 - contact 2
Switching sequence SS3: 0 - contact 1 - contact 1 + 2
Switching sequence GS: 0 - contact 1 - 0 - contact 2

GR: Relay with alternating closing contacts.

The LED below the upper function rotary switch performs during the teach-in process according to the operating instructions. It shows control commands by short flickering during operation.

Further settings can be made and actuators configured using the PC Tool PCT14.

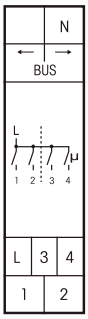
Connection example page 4-28. Technical data, see page 4-30.
Housing for operating instructions GBA14 page 4-26.

FMS14	RS485 bus actuator MSR	EAN 4010312313725	**40,60 €/pc.**

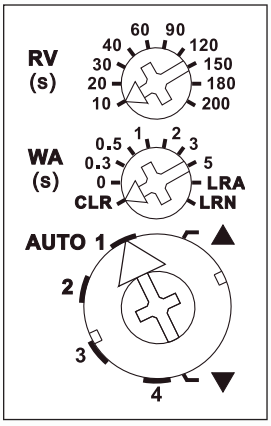
Recommended retail prices excluding VAT.

FSB14





Function rotary switches



Standard setting ex works.

Further settings can be made and actuators configured using the PC Tool PCT14.

Connection example page 4-28.
Technical data, see page 4-30.

Housing for operating instructions GBA14 page 4-26.

Switch actuator for shading elements and roller shutters with 2 channels for two 230 V motors. 2+2 NO contact 4A/250V AC, potential free from power supply 12 V. Bidirectional. Only 0.1 watt standby loss.

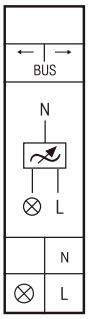
Modular device for DIN-EN 60715 TH35 rail mounting. 1 module = 18 mm wide, 58 mm deep.
Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.
Zero passage switching to protect contacts and motors.
A motor is connected to 1, 2 and N; a second motor may be connected to 3, 4 and N.
If both relays of the FSB14 are switched on, a power of 0.4 watts is required. If a power failure occurs, the device is switched off in a defined sequence.
The pushbuttons can be taught-in either as direction switches or universal switches:
Local control with universal pushbuttons: Each impulse causes the FSB14 to change its position in the UP-Stop-DOWN-Stop sequence.
Local control with direction pushbutton: A top impulse by pushbutton directly activates the 'UP' switch position. A bottom impulse by pushbutton directly activates the 'DOWN' switch position. A further impulse from one of the two pushbuttons stops the sequence immediately.
Central control dynamic without priority: A control signal from a pushbutton which was taught-in as a central control pushbutton without priority directly activates the switch position 'Up' with a scanning pulse up and the switch position 'Down' with a scanning pulse down. Without priority because this function can be overridden by other control signals.
Central control dynamic with priority: A control signal of min. 2 seconds from a pushbutton which was taught-in as a central control push-button with priority directly activates the switch position 'Up' (press top) and the switch position 'Down' (press bottom). With priority because these control signals cannot be overridden by other (local) control signals **until** the central control signal is cancelled by pressing again the central control pushbutton 'Up' or 'Down'.
The switch position 'up' or 'down' and the priority are specifically activated with a control signal, e.g. from a FSM61 taught-in with priority as a central pushbutton. With priority because these control signals cannot be overridden by other control signals **until** the central command is cancelled by the termination of the control signal
Shading scene control: With a control signal of a pushbutton with double rocker taught-in as a scene pushbutton or from the PC using the FVS software or automatically by an additional taught-in wireless-outdoor-brightness sensor FAH60, up to 4 previously filed elapse times can be accessed.
Function rotary switch below
AUTO 1 = In this position, the **local advanced automatic reversing system for Venetian blinds** is activated. When a universal pushbutton or a direction pushbutton are used for control a double impulse activates a slow rotation in the opposite direction, which can be stopped with a further impulse. **AUTO 2** = In this position, the local advanced automatic reversing system for Venetian blinds is completely switched off. **AUTO 3** = In this position, the local pushbuttons act static at first, thus, allow **reversal of Venetian blinds** by operating pushbuttons. They only switch to dynamic after 0.7 seconds continuous operation. **AUTO 4** = In this position, the local pushbuttons act only static (ER function). The time delay RV (wiping time) of the upper rotary switch is active. Central control is not possible.
▲▼ = ▲ (UP) and ▼ (DOWN) of the lower rotary switch are the positions for manual control. Manual control has priority over all other control commands.
WA = **Automatic reversal** for Venetian blinds and awnings is controlled by the middle rotary switch. 0 = OFF, otherwise from 0.3 to 5 seconds ON with the selected reversal time. In this case, it is only for DOWN that the direction is reversed on time-out of the time lag selected by the top rotary switch, e.g. to extend awnings or set Venetian blinds to a defined position. A LED is located behind the RV-rotary switch to show the reversal time.
RV = The **time delay** (delay time RV) is set by the top rotary switch. If the FSB14 is in the UP or DOWN position the selected delay time runs (elapses); at time-out the device changes automatically to STOP. Therefore, the time delay must be chosen at least as long as the shading element or roller shutter will need to move from one limit position to the other.
The LED indication for the delay time RV is located behind the rotary switch RV.
When one or several wireless window/door contacts FTK or Hoppe window handles are taught-in, a lock-out protection is set up while the door is open and disables a Central Down command.
The LED below the upper function rotary switch performs during the teach-in process according to the operating instructions. It shows control commands by short flickering during operation.

FSB14	RS485 bus actuator B+R	EAN 4010312313732	**51,90 €/pc.**

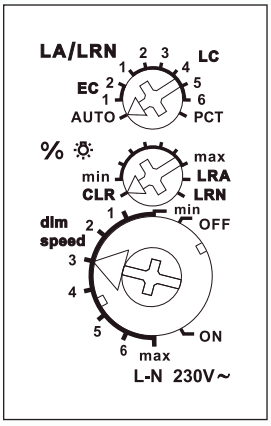
Recommended retail prices excluding VAT.

FUD14





Function rotary switches



Standard setting ex works.

Further settings can be made and actuators configured using the PC Tool PCT14.

Connection example page 4-28.
Technical data, see page 4-30.

Housing for operating instructions GBA14 page 4-26.

Universal dimmer switch, Power MOSFET up to 400W. Automatic lamp detection. Bidirectional. Only 0.3 watt standby loss. With adjustable minimum brightness or maximum brightness and dimming speed. With switching operation for light alarm clocks, children's rooms and snooze function. Also with light scene control and constant light regulation.

Modular device for DIN-EN 60715 TH35 rail mounting. 1 module = 18mm wide, 58mm deep.

The delivery includes a spacer DS14, 1 short jumper 1 module (up to 200W load) and 1 long jumper 1,5 modules (from 200W load with DS14 on the left side).

Universal dimmer switch for lamps up to 400W, depending on ventilation conditions, dimmable energy saving lamps (ESL) and dimmable 230V LED lamps are also dependent on the lamp electronics.

Zero passage switching with soft ON and soft OFF to protect lamps.

Switching voltage 230V. No minimum load.

The brightness level is stored on switch-off (memory).

In case of a power failure the switch position and the brightness stage are stored and may be switched on when the power supply is restored.

Automatic electronic overload protection and overtemperature switch-off.

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.

The upper rotary switch LA/LRN is first required for teach-in and defines in operation whether automatic lamp detection should be activated or special comfort positions:

AUTO allows all lamp types to be dimmed.

EC1 is a comfort position for energy saving lamps which must be switched on at high voltage due to their design so that they can be dimmed down and switched back on safely when cold.

EC2 is a comfort position for energy saving lamps which cannot be switched back on in dimmed-down position due to their design. Therefore the memory is switched off in this position.

LC1 is a comfort position for LED lamps which cannot be dimmed down far enough in AUTO (phase cut-off) due to their design.

LC2 and **LC3** are comfort positions for LED lamps like LC1 but with different dimming curves.

In positions EC1, EC2, LC1, LC2 and LC3, no inductive (wound) transformers may be used. In addition the maximum number of dimmable LED lamps may be lower than in AUTO position due to their design.

LC4, LC5 and **LC6** are comfort positions for LED lamps such as AUTO but with different dimming curves.

PCT is a position for special functions which are set up using the PC tool PCT14.

The minimum brightness (fully dimmed down) is adjustable **with the middle % ☼ rotary switch**.

The dimming speed is adjustable using the **bottom dimming speed rotary switch.**

The pushbuttons can be taught-in either as direction switches or universal switches:
When installed as a direction switch, one side is then 'switch on and dim up' and the other side is 'switch off and dim down'. A double-click on the switch-on side activates automatic dim-up to full brightness at dim speed. A double click on the switch-off side activates the snooze function. The children's room function is implemented on the switch-on side. **As a universal switch,** change the direction by briefly releasing the pushbutton.

For light scene control, constant light regulation, light alarm circuit, children's room circuit and sleep timer, refer to the Operator Manual.

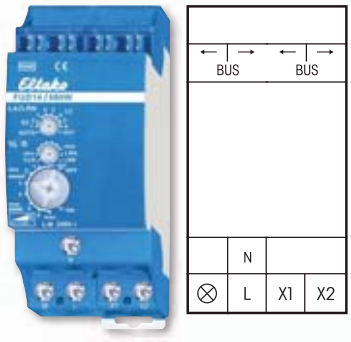
When the button is taught in as a staircase button, it is possible to retrieve a resettable staircase time switch function with RV = 2 minutes. Individual light scene pushbuttons can be used to retrieve brightness settings carried out during teach-in. A taught-in FAH can be used to implement a twilight switch. Switch-on can take place using up to 4 FBHs depending on motion and brightness.

The LED performs during the teach-in process according to the operating instructions. It shows control commands by short flickering during operation.

FUD14	RS485 bus universal dimmer switch	EAN 4010312313749	**56,50 €/pc.**

Recommended retail prices excluding VAT.

FUD14/800W



Universal dimmer switch, Power MOSFET up to 800W, ESL and LED up to 400W. Automatic lamp detection. Only 0.3 watt standby loss. With adjustable minimum brightness or maximum brightness and dimming speed. With switching operation for light alarm clocks, children's rooms and snooze function. Also with light scene control and constant light regulation.

Modular device for DIN-EN 60715 TH35 rail mounting. 2 modules = 36mm wide, 58mm deep.
The delivery includes a spacer DS14, 2 short jumpers 1 module (up to 400W load) and 1 long jumper 1,5 modules (from 400W load with DS14 on the left side).
Universal dimmer switch for lamps up to 800W, depending on ventilation conditions, dimmable energy saving lamps (ESL) and dimmable 230V LED lamps are also dependent on the lamp electronics.

Up to 3400W with capacity enhancers LUD14 at terminals X1 and X2.

Zero passage switching with soft ON and soft OFF to protect lamps.

Switching voltage 230V. No minimum load.
The brightness level is stored on switch-off (memory).
In case of a power failure the switch position and the brightness stage are stored and may be switched on when the power supply is restored.
Automatic electronic overload protection and overtemperature switch-off.

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.

The upper rotary switch LA/LRN is first required for teach-in and defines in operation whether automatic lamp detection should be activated or special comfort positions:

AUTO allows all lamp types to be dimmed.

EC1 is a comfort position for energy saving lamps which must be switched on at high voltage due to their design so that they can be dimmed down and switched back on safely when cold.

EC2 is a comfort position for energy saving lamps which cannot be switched back on in dimmed-down position due to their design. Therefore the memory is switched off in this position.

LC1 is a comfort position for LED lamps which cannot be dimmed down far enough in AUTO (phase cut-off) due to their design.

LC2 and **LC3** are comfort positions for LED lamps like LC1 but with different dimming curves.
In positions EC1, EC2, LC1, LC2 and LC3, no inductive (wound) transformers may be used. In addition the maximum number of dimmable LED lamps may be lower than in AUTO position due to their design.

LC4, LC5 and **LC6** are comfort positions for LED lamps such as AUTO but with different dimming curves.

PCT is a position for special functions which are set up using the PC tool PCT14.
The minimum brightness (fully dimmed down) is adjustable **with the middle % rotary switch**.
The dimming speed is adjustable using the **bottom dimming speed rotary switch.**

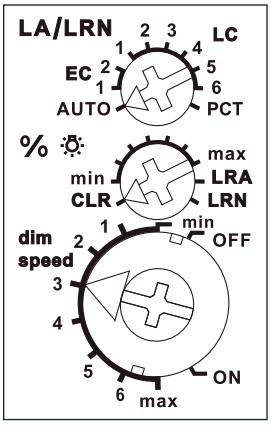
The pushbuttons can be taught-in either as direction switches or universal switches:
When installed as a direction switch, one side is then 'switch on and dim up' and the other side is 'switch off and dim down'. A double-click on the switch-on side activates automatic dim-up to full brightness at dim speed. A double click on the switch-off side activates the snooze function. The children's room function is implemented on the switch-on side. **As a universal switch,** change the direction by briefly releasing the pushbutton.

For light scene control, constant light regulation, light alarm circuit, children's room circuit and sleep timer, refer to the Operator Manual.

When the button is taught in as a staircase button, it is possible to retrieve a resettable staircase time switch function with RV = 2 minutes. Individual light scene pushbuttons can be used to retrieve brightness settings carried out during teach-in. A taught-in FAH can be used to implement a twilight switch. Switch-on can take place using up to 4 FBHs depending on motion and brightness.

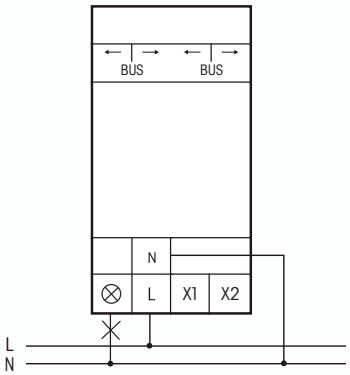
The LED performs during the teach-in process according to the operating instructions.
It shows control commands by short flickering during operation.

Function rotary switches



Standard setting ex works.

Typical connection



Further settings can be made and actuators configured using the PC Tool PCT14.

Connection example page 4-28.
Technical data, see page 4-30.
Housing for operating instructions GBA14 page 4-26.

FUD14/800W	RS485 bus universal dimmer switch	EAN 4010312313756	**87,50 €/pc.**

Recommended retail prices excluding VAT.

FLUD14





Capacity enhancer for universal dimmer switch FUD14/800W, Power MOSFET up to 400W. Standby loss 0.1 watt only.

Modular device for DIN EN 60715 TH35 rail mounting.
1 module = 18mm wide, 58mm deep.

Capacity enhancers FLUD14 can be connected to the universal dimming actuator FUD14/800W. By this the switching capacity **for one lamp** will be increased up to 200W or alternatively **for additional lamps** up to 400W per each capacity enhancer.

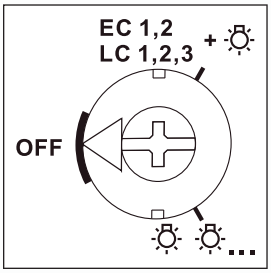
The two circuits to increase capacity can be created at the same time using several FLUD14s.

Supply voltage 230V. No minimum load.

Automatic electronic overload protection and over-temperature switch-off.

The lamp type of a capacity enhancer FLUD14 in the 'Capacity increase with additional lamps' may deviate from the lamp type of the universal dimmer switch FUD14/800W.
It is therefore possible to mix capacitive and inductive loads.

Function rotary switch

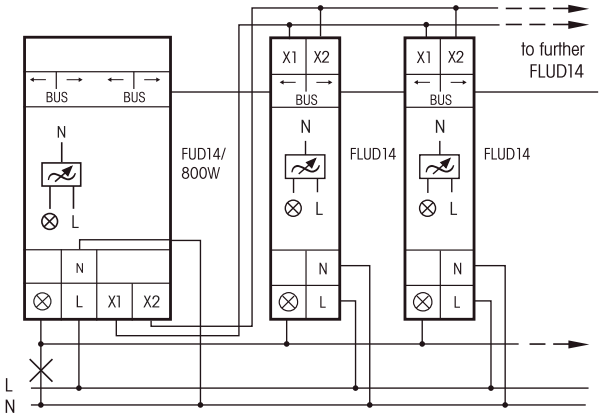


Standard setting ex factory.

The switching mode "one lamp"(☼) or "additional lamps" (☼☼) is set with a rotary switch on the front.

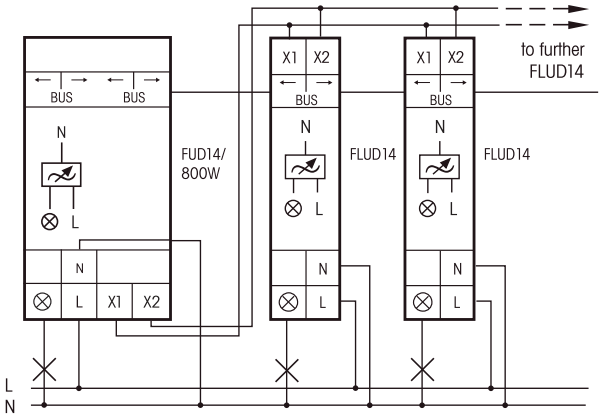
This setting must be same as the actual installation, otherwise there is a risk of destruction of the electronics.

Capacity increase for a lamp (☼) in dimmer switch operating modes AUTO, LC4, LC5 and LC6. For operating modes EC1, 2 and LC1, 2, 3, see next page.



FUD14/800W:
1.-8. FLUD14 + up to 200W each

Capacity increase for additional lamps (☼☼) in dimmer switch operating modes AUTO, LC4, LC5 and LC6. For operating modes EC1, 2 and LC1, 2, 3, see next page.



FUD14/800W:
1.-7. FLUD14 + up to 400W

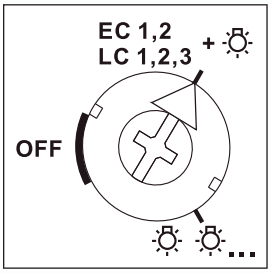
Housing for operating instructions GBA14 page 4-26.

FLUD14	Capacity enhancer	EAN 4010312313763	**62,20 €/pc.**

Recommended retail prices excluding VAT.

This setting must be made on the front panel for ESL and 230 V LED lamps if the FUD14/800W is operated in comfort settings EC1, EC2, LC1, LC2 or LC3.

Function rotary switch

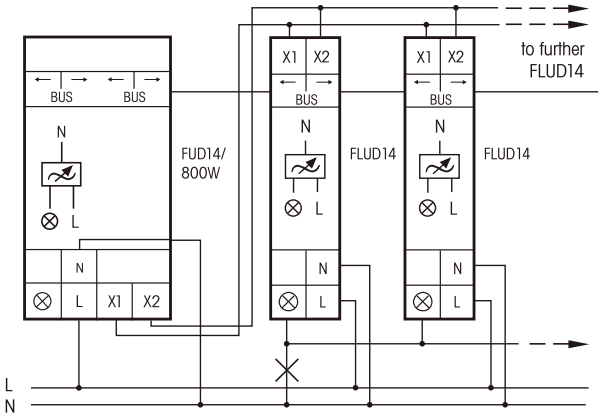


Capacity increase with capacity enhancers FLUD14 for dimmable energy saving lamps ESL and dimmable 230V LED lamps in comfort settings EC1, EC2, LC1, LC2 and LC3.

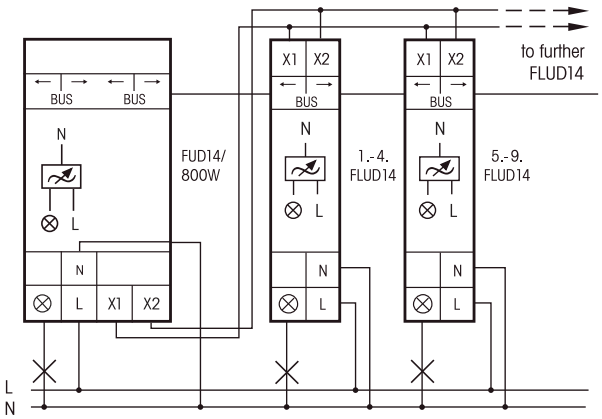
Also for capacity increase with additional lamps.

Otherwise there is a risk of destruction of the electronics.

Capacity increase of a lamp in settings EC1, 2 and LC1, 2, 3



Capacity increase with additional lamps in settings EC1, 2 and LC1, 2, 3.



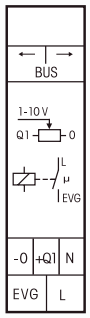
Housing for operating instructions GBA14 page 4-26.

FLUD14	Capacity enhancer	EAN 4010312313763	**62,20 €/pc.**

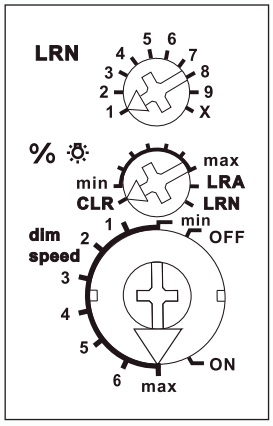
Recommended retail prices excluding VAT.

FSG14/1-10 V



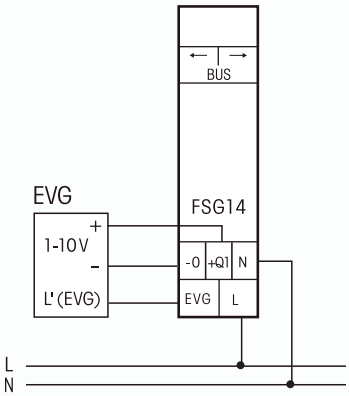


Function rotary switches



Standard setting ex works.

Typical connection



Dimmer switch controller for electronic ballast 1-10 V, 1 NO contact not potential free 600 VA and 1-10 V control output 40 mA. Bidirectional. Only 0.9 watt standby loss. With adjustable minimum brightness and dimming speed. With light scene control and constant light regulation.

Modular device for DIN-EN 60715 TH35 rail mounting.
1 modul = 18 mm wide, 58 mm deep.

State-of-the-art hybrid technology combines advantages of nonwearing electronic control.

Zero passage switching to protect contacts.

The power consumption of the 12 V DC power supply is only 0.1 W.

The brightness level is stored on switch-off (memory).

In case of a power failure the switch position and the brightness stage are stored and may be switched on when the power supply is restored.

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.

The minimum brightness (fully dimmed) is adjustable **with the % rotary switch.**

The dimming speed is adjustable using the **dimming speed rotary switch.**

The load is switched on and off by a bistable relay at output EVG. Switching capacity for fluorescent lamps or LV halogen lamps with EGV 600 VA.

By using a bistable relay coil power loss and heating is avoided even in the on mode.

After installation, wait for short automatic synchronisation before the switched consumer is connected to the mains.

The pushbuttons can be taught-in either as direction switches or universal switches:

As a direction switch, press up is brighter and press down is darker respectively above short pressing means switch ON and below short pressing switch OFF. A double click above activates automatic updimming until full brightness with dim speed. A double click below activates snooze function. The children's room function will be realized with the upper switch.

As a universal switch, change the direction by briefly releasing the pushbutton. With switching operation for children's rooms and snooze function.

Switching for light alarm clocks: A wireless signal of a time clock which was taught-in accordingly starts the wake up function by switching on the light at the lowest brightness level and dims up slowly until the maximum level is reached. Dependent on the set dim speed the wake up time is between 30 and 60 minutes. The dimming process is stopped by tapping briefly (e.g. on a hand-held transmitter).

Switching operation for children's rooms, when activated: If the light is switched on by holding down the pushbutton (universal switch or direction switch above), it starts at the lowest brightness level after approx. 1 second and dims up slowly as long as the pushbutton is held down. The last saved brightness level is not modified.

Snooze function, when activated (universal switch or direction switch below): With a double impulse the lighting is dimmed down from the current dimming position to the minimum brightness level and switched off. The current dimming position as well as the adjustable minimum brightness level determine the dimming time (max. = 60 minutes) which can be reduced as required. It can be switched off at any time by short-time control commands during the lighting is dimmed down.

The LED below the upper function rotary switch performs during the teach-in process according to the operating instructions. It shows control commands by short flickering during operation.

Further settings can be made and actuators configured using the PC Tool PCT14.

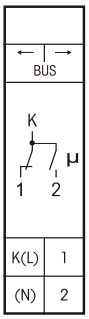
Connection example page 4-28. Technical data, see page 4-30.
Housing for operating instructions GBA14 page 4-26.

FSG14/1-10V	RS485 bus dimmer switch controller	EAN 4010312313770	**53,70 €/pc.**

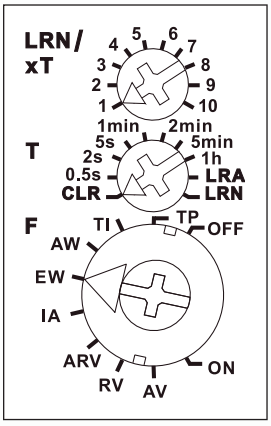
Recommended retail prices excluding VAT.

FMZ14





Function rotary switches



Standard setting ex works.

Multifunction time relay with 10 functions, 1 CO contact potential free 10 A/250 V AC, incandescent lamps 2000 watts*, with DX technology. Bidirectional. Only 0.4 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.
1 modul = 18 mm wide, 58 mm deep.

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.

Wireless window contacts (FTK) at opened windows with the function NO or NC can be taught-in. If a direction switch is taught-in, a function (e.g. TI) can be started using the top switch (START) and stopped with the bottom switch (STOP).

Patented Eltako Duplex technology allows you to switch normally potential free contacts in zero passage switching when 230 V A/C voltage 50 Hz is switched. This drastically reduces wear. To achieve this, simply connect the N conductor to the terminal (N) and L to K(L). This results in an additional standby consumption of only 0.1 watt.

During a power failure both relays are shut down. When power returns contact 1 closes.

Time setting between 0.5 second and 20 hours.

Teach-in takes place **using the top and middle rotary switches** and then the time is set.
T is the time base and xT the multiplier.

The function is selected **using the bottom rotary switch:**

RV = off delay
AV = operate delay
TI = clock generator starting with impulse
TP = clock generator starting with pause
IA = impulse controlled operate delay (e.g. automatic door opener)
EW = fleeting NO contact
AW = fleeting NC contact
ARV = operate and release delay
ON = Permanent ON
OFF = Permanent OFF

The LED below the upper function rotary switch performs during the teach-in process according to the operating instructions. It shows control commands by short flickering during operation.

* The maximum load can be used starting at a delay time or clock cycle of 5 minutes. The maximum load will be reduced for shorter times as follows: up to 2 seconds 15%, up to 2 minutes 30%, up to 5 minutes 60%.

Further settings can be made and actuators configured using the PC Tool PCT14.

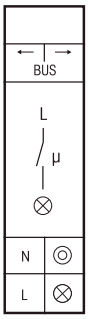
Connection example page 4-28. Technical data, see page 4-30.
Housing for operating instructions GBA14 page 4-26.

FMZ14	RS485 bus actuator MZ	EAN 4010312313787	**40,60 €/pc.**

Recommended retail prices excluding VAT.

FTN14





Staircase off-delay timer, 1 NO contact not potential free 16 A/250 V AC, incandescent lamps up to 2000 watts, switch-off early warning and switchable pushbutton permanent light. Also for energy saving lamps ESL up to 200 Watt. Bidirectional. Only 0.2 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.
1 modul = 18 mm wide, 58 mm deep.

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.

Switching voltage 230 V.

Zero passage switching to protect contacts and consumers.

the function TLZ is set, the lighting is switched on again after a power failure provided the set time has not yet elapsed.

In addition to the bus control input, this staircase off-delay timer can also be controlled locally by a conventional 230 V control switch. Glow lamp current up to 5 mA, dependent on the ignition voltage of the glow lamps.

The upper rotary switch LRN is required for teach-in. Then the off-delay 1 to 30 minutes can be set.

Wireless pushbuttons and/or wireless motion-brightness sensors FBH will be taught-in **with the middle rotary switch** in the setting LRN, of which one or more are central control push-buttons. The required function of this staircase off-delay timer can then be selected:

NLZ = off-delay timer with adjustable operate delay

TLZ = staircase time switch

ESL = staircase time switch for energy saving lamps ESL

+ ☼ = with pushbutton permanent light (only TLZ)
+ ⎍ = with switch-off early warning (TLZ + ESL)
+ ⎍☼ = with pushbutton permanent light and switch-off early warning (TLZ + ESL)

If the permanent light function ☼ is switched on, the function can be activated by pressing the pushbutton for longer than 1 second. This function switches off automatically after 60 minutes or by pressing the pushbutton for longer than 2 seconds.

If the switch-off early warning ⎍ is switched on, the light starts to flicker approx. 30 seconds before time-out. This is repeated three times at decreasing time intervals.

If both switch-off early warning and pushbutton permanent light ⎍☼ are switched on, switch-off early warning is activated before automatic switch-off of the permanent light.

A response delay (AV delay) can be set **with the lower rotary switch** at setting NLZ or when controlled with a switch. Setting AUTO1 = 1 s, AUTO2 = 30 s, AUTO3 = 60 s, AUTO4 = 90 s and AUTO5 = 120 s (clockwise). Also permanent light function can be set manually.

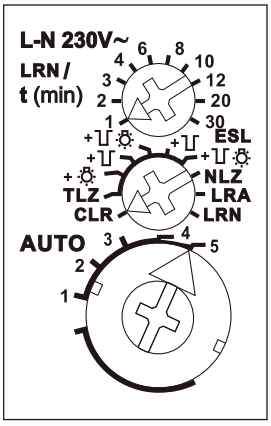
When teaching-in **wireless motion/brightness sensors FBH,** the switching threshold is defined on the last FBH taught-in to switch the light on/off depending on the brightness – provided motion is detected. The off delay set on the FTN14 is prolonged by a setting of 1 minute fixed in the FBH.

When teaching-in **window/door contacts FTK,** a NC or NO can be taught-in as required. Accordingly, the timing period starts when opening or closing the window or the door.

If **switches for permanent operation** are taught-in, for example wireless transmitter modules or FTS12EM, it is switched on when pressing and the time will be started when releasing.

The LED below the upper function rotary switch performs during the teach-in process according to the operating instructions. It shows control commands by short flickering during operation.

Function rotary switches



Standard setting ex works.

Further settings can be made and actuators configured using the PC Tool PCT14.

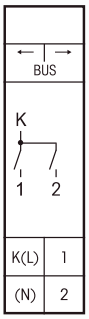
Connection example page 4-28. Technical data, see page 4-30.
Housing for operating instructions GBA14 page 4-26.

FTN14	RS485 bus actuator TN	EAN 4010312313794	**40,60 €/pc.**

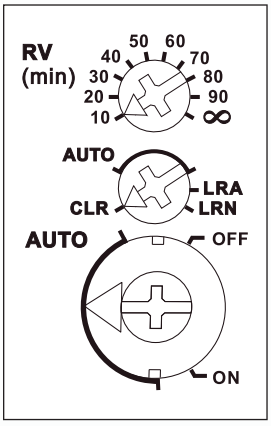
Recommended retail prices excluding VAT.

FFR14





Function rotary switches



Standard setting ex works.

2-channel mains disconnection relay, 1+1 NO contacts potential free 16A/250V AC, incandescent lamps 2000 watts. Bidirectional. Only 0.1 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.
1 modul = 18mm wide, 58mm deep.

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.

State-of-the-art hybrid technology combines advantages of nonwearing electronic control with high capacity of special relays.

The mains disconnection relay FFR14 interrupts the power supply of 1 or 2 circuits and prevents interfering electromagnetic fields.

To enable zero passage switching in patented Eltako Duplex technology, L must be connected to K(L) and N to (N). This results in an additional standby consumption of only 0.1 watt. N may not be connected if a contactor is switched downstream for the purpose of increasing performance.

When both relays of the FFR14 are switched on, 0.6 watts are required. If a power failure occurs, the device is switched off in a defined sequence.

Maximum current as the sum of both contacts 16A at 230V.

This mains disconnection relay is switched in the circuit distributor downstream of the 16A circuit breaker which protects up to two circuits in the room to be protected by mains disconnection. For example, one circuit for the lighting and one circuit for the socket outlets.

The circuits are enabled and disabled manually using one or several stationary wireless pushbuttons or hand-held wireless transmitters. Contact L-2 can store a switch-off delay of 10 to 90 minutes.

If a wireless pushbutton rocker is assigned to 'central ON' for the mains disconnection relay and to 'ON' for the lighting, the mains disconnection relay is automatically cancelled when the lighting is switched on.

If a wireless pushbutton rocker, e.g. a bedside light, is assigned with 'OFF' for the lamp and 'central OFF' for the mains disconnection relay, the mains disconnection is automatically activated when the bedside lamp is switched off.

10 teach-in positions of the FFR14 plus the switch-off delay give the user plenty of scope to define the settings the mains disconnection relay.

The LED below the upper function rotary switch performs during the teach-in process according to the operating instructions. It shows control commands by short flickering during operation.

Further settings can be made and actuators configured using the PC Tool PCT14.

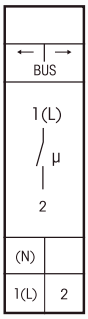
Connection example page 4-28. Technical data, see page 4-30.
Housing for operating instructions GBA14 page 4-26.

FFR14	RS485 bus actuator FR	EAN 4010312313800	**43,40 €/pc.**

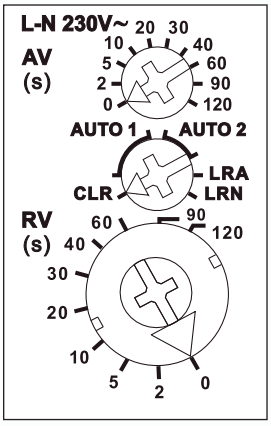
Recommended retail prices excluding VAT.

FZK14





Function rotary switches



Standard setting ex works.

Time relay for card switch or smoke alarm, 1 NO contact potential free 16 A/250 V AC, incandescent lamps up to 2000 watts. Off-delay and response delay are adjustable. Bidirectional. Only 0.1 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.
1 modul = 18 mm wide, 58 mm deep.

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.

Patented Eltako Duplex technology allows you to switch normally potential free contacts in zero passage switching when 230 V A/C voltage 50 Hz is switched. This drastically reduces wear. To achieve this, simply connect the N conductor to the terminal (N) and L to 1(L). This results in an additional standby consumption of only 0.1 watt.

N may not be connected if a contactor is switched downstream for the purpose of increasing performance.

The upper rotary switch AV is required for teach-in. Then set here the response lag time AV between 0 and 120 seconds for contact.

The middle rotary switch is required for teach-in. Then define here the response after a power failure. In position AUTO1 the switch position is retained; in position AUTO2, the device is switched off according to a defined procedure.

Use the bottom rotary switch RV to set the time delay time RV between 0 and 120 seconds for contact.

The AV and RV times permit the simple control of lights and air conditioning systems with the wireless card switches FKF and FKC.

The response lag AV starts as soon as the hotel card/key card is inserted in the wireless card-operated door lock FKF and the time delay RV starts after the card is removed.

In addition to the wireless card switch FKF, wireless window/door contacts FTK, Hoppe window handles and motion/brightness sensor FBH can also be taught in.

Opening a monitored window also starts the RV time. When the RV time expires, contact opens. Closing all monitored windows starts the AV time. When the AV time expires, contact closes.

When motion/brightness sensors are used and the hotel card/key card is inserted, contact closes immediately motion is detected. If no motion is detected for 15 minutes the contact opens, even if the hotel card/key card is inserted.

Several wireless smoke alarms FRW-ws are logically linked with this switch actuator time relay so that the RV time only starts after all FRW-ws devices have signalled alarm end.

Card switches and smoke alarms can not be operated together with an FZK device.

The LED below the upper function rotary switch performs during the teach-in process according to the operating instructions. It shows control commands by short flickering during operation.

Further settings can be made and actuators configured using the PC Tool PCT14.

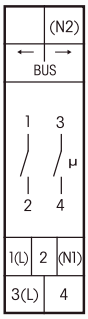
Connection example page 4-28. Technical data, see page 4-30.
Housing for operating instructions GBA14 page 4-26.

FZK14	RS485 bus actuator time relay	EAN 4010312313817	**39,20 €/pc.**

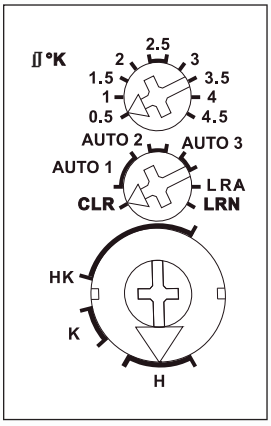
Recommended retail prices excluding VAT.

FHK14





Function rotary switches



Standard setting ex works.

Heating/cooling relay, 1+1 NO contacts potential free 4 A/250 V AC, 2 channels, with DX technology. Bidirectional. Only 0.1 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.
1 modul = 18 mm wide, 58 mm deep.

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.

Patented Eltako Duplex technology allows you to switch normally potential free contacts in zero passage switching when 230 V A/C voltage 50 Hz is switched. This drastically reduces wear. To achieve this, simply connect the N conductor to the terminal (N1) and L to 1(L) and/or N to (N2) and L to 3(L). This results in an additional standby consumption of only 0.1 watt.

When both relays of the FHK14 are switched on, 0.4 watts are required.

This heating/cooling relay assesses information about wireless temperature controllers or sensors. Possibly supplemented by window/door contacts, motion detectors, Hoppe window handles and wireless pushbuttons.

As an alternative to a wireless temperature controller, the temperature information on the set and actual values can be obtained from the FVS software.

It is also possible to specify the set temperature via FVS software and thus limiting the setting range of the wireless temperature controller.

Top rotary switch for adjustable hysteresis:

Left stop: lowest hysteresis 0.5°. **Middle position:** hysteresis 2.5°.
Right stop: largest hysteresis 4.5°. Inbetween, divisions in steps of 0.5°.

Middle rotary switch for regulation types:

AUTO 1: With PWM control at T = 4 minutes. (PWM = pulse width modulation).
(suitable for valves with thermoelectric valve drive)

AUTO 2: With PWM control at T = 15 minutes.
(suitable for valves with motor-driven valve drive)

AUTO 3: With 2-point control.

Bottom rotary switch for operating modes:

H: heating mode (Contact 1-2 and Contact 3-4); **K:** cooling mode (Contact 1-2 and Contact 3-4);
HK: heating mode (Contact 3-4) and cooling mode (Contact 1-2);

In heating mode, the **frost protection function** is always enabled. As soon as the actual temperature drops below 8°C, the temperature is controlled in the selected operating mode to 8°C.

If one or several windows are open, the output remains off **provided the window/door contacts FTK or Hoppe handles** are taught-in. In heating mode, however, the frost protection remains enabled.

As long as all taught-in **motion detectors FBH** detect no motion, the device is switched to setback mode. In heating mode, the reference temperature is set back by 2°; in cooling mode, it is raised by 2°. As soon as a motion detector signals movement again, the device is switched to normal mode.

When a **wireless pushbutton FT4** is taught-in, the assignment of the 4 keys is assigned with the following fixed functions: Top right: Normal mode (can also be enabled by timer). Bottom right: Night setback mode by 4°; in cooling mode, raised by 4° (can also be enabled by timer). Top left: Setback mode by 2°, in cooling mode, raised by 2°. Bottom left: Off (in heating mode, frost protection enabled; in cooling mode permanent off). If the motion detector and wireless pushbutton are taught-in at the same time, the last telegram received is always the one that is valid. A motion detector therefore switches off a setback mode selected by wireless pushbutton when a movement is detected.

The LED below the upper function rotary switch performs during the teach-in process according to the operating instructions. It shows control commands by short flickering during operation.

Further settings can be made and actuators configured using the PC Tool PCT14.

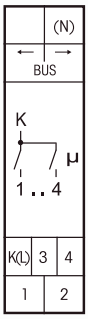
Connection example page 4-28. Technical data, see page 4-30.
Housing for operating instructions GBA14 page 4-26.

FHK14	RS485 bus actuator HK	EAN 4010312313824	**43,40 €/pc.**

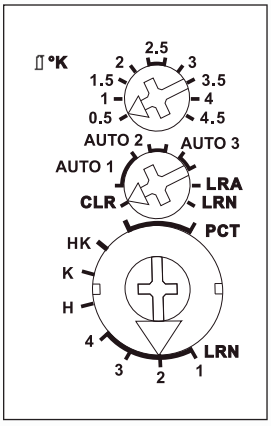
Recommended retail prices excluding VAT.

F4HK14





Function rotary switches



Standard setting ex works.

Further settings can be made and actuators configured using the PC Tool PCT14.

Connection example page 4-28.
Technical data, see page 4-30.

Housing for operating instructions GBA14 page 4-26.

Heating/cooling relay with 4 channels, 1 NO contact per channel 4 A/250 V AC, potential free from the power supply, with DX technology. Bidirectional. Only 0.1 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.
1 modul = 18 mm wide, 58 mm deep.

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.

Patented Eltako Duplex technology allows you to switch normally potential free contacts in zero passage switching when 230 V A/C voltage 50 Hz is switched. This drastically reduces wear. To achieve this, simply connect the N conductor to the terminal (N) and L to K(L). This results in an additional standby consumption of only 0.1 watt.

When all 4 relays are switched on, a power of 0.7 watts is required. If a power failure occurs, the device is switched off in a defined sequence.

This heating/cooling relay assesses information about wireless temperature controllers or sensors. Possibly supplemented by window/door contacts, motion detectors, Hoppe window handles and wireless pushbuttons.

As an alternative to a wireless temperature controller, the temperature information on the set and actual values can be obtained from the FVS software.

It is also possible to specify the set temperature via FVS software and thus limiting the setting range of the wireless temperature controller.

Top rotary switch for adjustable hysteresis:

Left stop: lowest hysteresis 0.5°. **Middle position:** hysteresis 2.5°.
Right stop: largest hysteresis 4.5°. Inbetween, divisions in steps of 0.5°.

Middle rotary switch for regulation types:

AUTO 1: With PWM control at T = 4 minutes. (PWM = pulse width modulation).
(suitable for valves with thermoelectric valve drive)

AUTO 2: With PWM control at T = 15 minutes.
(suitable for valves with motor-driven valve drive)

AUTO 3: With 2-point control.

Bottom rotary switch for operating modes:

H: heating mode (Contacts 1 to 4); **K:** cooling mode (Contacts 1 to 4);
HK: heating mode (Contact 3 and 4) and cooling mode (Contact 1 and 2);

In heating mode, the **frost protection function** is always enabled. As soon as the actual temperature drops below 8°C, the temperature is controlled in the selected operating mode to 8°C.

If one or several windows are open, the output remains off **provided the window/door contacts FTK or Hoppe handles** are taught-in. In heating mode, however, the frost protection remains enabled.

As long as all taught-in **motion detectors FBH** detect no motion, the device is switched to setback mode. In heating mode, the reference temperature is set back by 2°; in cooling mode, it is raised by 2°. As soon as a motion detector signals movement again, the device is switched to normal mode.

When a **wireless pushbutton FT4** is taught-in, the assignment of the 4 keys is assigned with the following fixed functions: Top right: Normal mode (can also be enabled by timer). Bottom right: Night setback mode by 4°; in cooling mode, raised by 4° (can also be enabled by timer). Top left: Setback mode by 2°, in cooling mode, raised by 2°. Bottom left: Off (in heating mode, frost protection enabled; in cooling mode permanent off). If the motion detector and wireless pushbutton are taught-in at the same time, the last telegram received is always the one that is valid. A motion detector therefore switches off a setback mode selected by wireless pushbutton when a movement is detected.

The LED below the upper function rotary switch performs during the teach-in process according to the operating instructions. It shows control commands by short flickering during operation.

January 2013.

F4HK14	RS485 bus actuator HK	EAN 4010312314982	**51,90 €/pc.**

Recommended retail prices excluding VAT.

FSU14





Display timer with 8 channels for the Eltako RS485 bus. With "astro" function. Only 0.1 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.
1 modul = 18 mm wide, 58 mm deep.

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.

A wireless antenna module FAM14 assigns the device address for the timer FSU14, please see the operating instructions.

The switching commands of the channels can be taught-in into bus actuators and wireless actuators.

Up to 60 timer memory locations are freely assigned to the channels. With date and automatic summer/winter time changeover. Ca. 20 days power reserve without battery.

Each memory location can either be used with astro function (automatic turn on after sunrise or sunset) or the time function. The astro switch-on and -off time can be shifted ± 2 hours and in addition, an influence of the solstices time lag of up to ± 2 hours can be entered.

The timer is set using the MODE and SET buttons and the settings can be interlocked.

Set language: Every time the power supply is applied, press SET within 10 seconds to set the language and press MODE to confirm. D = German, GB = English, F = French, IT = Italian and ES = Spanish. The normal display then appears: weekday, time, day and month.

Rapid scroll: In the following settings, the numerals scroll rapidly when you press and hold down Enter. Release then press and hold down to change the scroll direction.

Set clock: Press MODE and search for the **function CLK** with SET and select with MODE. Press MODE to set. In H, press SET to select the hour and press MODE to confirm. In M proceed in the same way to set the minute.

Set date: Press MODE and search for the **function DAT** with SET ans select with MODE. Press MODE to select. At Y, press SET to select the year and press MODE to confirm. Proceed in the same way at M to set the month and at D to set the day. The last setting in the sequence is MO (weekday) blinking. Press SET to set it.

Set position coordinates (if the astro function is required): Press MODE and search for the **function POS** with SET and select with MODE. For LAT press SET to select the latitude and press MODE to confirm. Repeat this procedure for LON to select the longitude and press MODE to confirm. Select the time zone at GMT with SET and confirm with MODE. If desired, a time lag of up to ± 2 hours for all channels can now be entered at WS (winter solstice) and SS (summer solstice).

Summer/winter time changeover: Press MODE and search for the **function SWT** with SET and select with MODE. Now press SET to switch between ON and OFF. If you select ON, changeover is automatic.

Switch random mode on/off: Press MODE and search for the **function RND** with SET and select with MODE. Press SET to set to ON (RND+) or OFF (RND) and press MODE to confirm. When random mode is switched on, all switch-on time points of all channels are shifted at random by up to 15 minutes. Switch-on times are switched earlier and switch-off times are switched later.

Lock settings: Briefly press MODE and SET together and at LCK, press SET to lock. This is displayed by an arrow next to the lock symbol.

Unlock settings: Press MODE and SET together for 2 seconds and at UNL press SET to unlock.

Wired central control: At the terminals T1/T2 and T3/T2 switches can be connected for central control.

Set operation mode: press MODE and search for the **function INT** with SET and select with MODE. Select the channel at CH with SET and confirm with MODE. SET can be used to switch over AUT (automatic), ON (with priority), OFF (with priority), or ZEA. See the operating instructions for more information.

Teach-in channels in wireless actuators: Press MODE and search for the **function LRN** with SET and select with MODE. Select the channel at CH with SET and confirm with MODE. It can be switched between ON and OFF with SET. If ON is confirmed with MODE, LRN+ flashes and the function ON will be taught-in in the learning actuator with SET. Likewise it will be taught-in at OFF. See the operating instructions for more information.

Enter switching programs: press MODE and select one of the 60 memory locations from P01 to P60 with MODE and SET at the **function PRG.** See the operating instructions for more information.

FSU14	Display timer	EAN 4010312313831	**55,70 €/pc.**

Recommended retail prices excluding VAT.

FMSR14





Multifunction sensor relay with display and 5 channels (brightness, twilight, wind, rain and frost) for the Eltako RS485 bus. Only 0.1 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.
1 modul = 18 mm wide, 58 mm deep.

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.

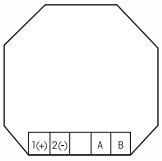
This multifunction sensor relay evaluates the wireless telegrams of the wireless weather data transmitter module FWS61 and, dependent on the setting, issues switching commands directly to the RS485 bus and also to the wireless network in the display by means of the MODE and SET buttons.

This also allows control over wireless actuators installed at decentralised positions. If only centrally installed actuators need to be addressed to control shading elements from the FWS61, it is sufficient to teach-in the FSB14s in these actuators using the PC Tool PCT14. An FMSR14 is then not required.

FMSR14	Multifunction sensor relay	EAN 4010312314111	**55,70 €/pc.**

FWS61-24 V DC





Wireless weather data transmitter module for the seven weather items sent by the multisensor MS. Only 0.3 watt standby loss.

For installation. 45 mm long, 55 mm wide, 18 mm deep.

Power (24 V DC) is supplied by the switch mode power supply unit FSNT61-24 V/6 W (33 mm deep, 45 mm long, 55 mm wide). This switching power supply unit simultaneously supplys the multisensor MS including the heating of the rain sensor.

It is possible to use a deep UP box for the two devices.

This weather data transmitter module receives the seven momentary readings of the weather items: brightness (from three cardinal points), twilight, wind, rain and ambient temperature by cable J-Y (ST) Y 2x2x0,8 from the multisensor MS attached to the outside of the building. The readings are sent in the form of wireless telegrams over the Eltako wireless network with the priorities listed below.

Evaluation is carried out by the FVS Wireless Building Visualisation and Control Software GFVS, the wireless multifunction sensor relay FMSR14, the wireless weather data display FWA55D and the wireless actuator FSB14.

When the supply voltage is applied, a teach-in telegram is sent immediately and two status telegrams containing the momentary values are sent approx. 60 seconds later. At least every 10 minutes, but also:

Brightness values West, South and East each from 0 to 150 kLux if a change of minimum 10% occurs.

Twilight values from 0 to 999 Lux if a change of minimum 10% occurs.

Wind speeds from 0 to 70m/s. From 4m/s to 16m/s, the momentary values are sent immediately 3 times at intervals of 1 second. After that, further value increases are sent within 20 seconds. Dropping wind speeds are sent progressively delayed by 20 seconds.

Rain values at the start are sent immediately 3 times. After the rain stops, a telegram is sent within 20 seconds.

Temperature values from -40.0°C to +80.0°C are sent every 10 minutes together with all the other values in a status telegram.

Monitoring multisensor function and line break. If the weather data message from multisensor MS is not sent for 5 seconds, the FWS61 immediately sends an alarm telegram which is repeated every 30 seconds. The alarm telegram can be taught-in as a switch telegram in an actuator to initiate further action as required. In addition, the two status telegrams containing the values brightness 0 Lux, twilight 0 Lux, temperature -40°C (frost), wind 70 m/s and rain are sent.

When a message is again detected from the multisensor MS, the alarm stops automatically.

FWS61-24 V DC	Wireless weather data transmitter module	EAN 4010312301937	**58,60 €/pc.**

Multi sensor MS



The MS multi sensor sends the current weather details, including brightness (from three points of the compass), wind, rain and frost, to the weather data transmitter module FWS61 connected in series once per second. A standard telephone wire is sufficient as connecting lead: J-Y(ST)Y 2x2x0,8 or equivalent. 100 m line length is permitted.
Solid plastic housing, LxWxH = 118x96x77 mm. Degree of protection IP44.
Temperature at mounting location -30°C to +50°C. A power supply unit FSNT61-24 V/6 W is required for the power supply, including heating of the rain sensor. This simultaneously supplys the wireless weather data transmitter module FWS61-24 V DC.

Multi sensor MS		EAN 4010312901731	**267,30 €/pc.**

Recommended retail prices excluding VAT.

FWZ14-65A





Wireless single-phase energy meter transmitter module, maximum current 65 A. Only 0.5 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.
1 module = 18 mm wide, 58 mm deep.
Accuracy class B (1%). With RS485 interface.
Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.
It measures active energy by means of the current between input and output. The internal power consumption of 0.5 watt active power is not metered..
1 phase conductor with a max. current up to 65 A can be connected.
The inrush current is 40 mA. In operation the rotary switch must be set to AUTO.
The meter reading, the current power and the serial number will be handed over to the bus - eg for forwarding to an external computer, the software GFVS 3.0 or GFVS Energy - and also to the wireless network via FAM14. To be displayed also with FEA55D and FEA55LED.
Power consumption is indicated using a LED.
If the L input and the L output were interchanged when hooked up, a normal rate (HT)/off-peak (NT) switchover telegram is transmitted to indicate the hook-up error.
If the anticipated load exceeds 50%, maintain an air gap of ½ pitch unit to the devices mounted adjacently. Thereto included are 2 spacers DS14, a short jumper and two long jumpers.

Further settings can be made and actuators configured using the PC Tool PCT14.

FWZ14-65A	Wireless single-phase energy meter transmitter module 65 A	EAN 4010312501511	**59,90 €/pc.**

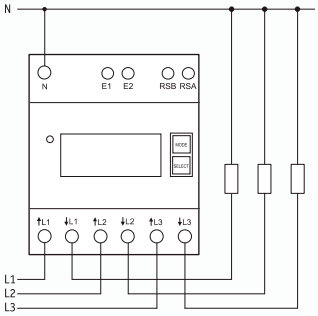
Recommended retail prices excluding VAT.

RS485 Bus Three-phase Energy Meter with display, MID approval DSZ14DRS-3x65A

DSZ14DRS-3x65A



Typical connection
4-wire-connection 3x230/400V



Three-phase energy meter.
Maximum current 3x65A. Standby loss 0.4 watt per path only.

Modulair device for DIN-EN 60715 TH35 rail mounting in distribution cabinets with IP51 protection class. 4 modules = 70mm wide and 58mm deep.

Accuracy class B (1%). With RS485 interface.

It measures active energy by means of the current between input and output. The internal power consumption of 0.4 watt active power per path is neither metered nor indicated.

1, 2 or 3 phase conductors with max. currents up to 65A can be connected.
The inrush current is 40mA.

The terminals ↑L1 and N must always be connected.

Connection to the Eltako RS485 bus by means of a 2-wire screened bus line (e.g. telephone line). The meter reading and the momentary capacity are transferred to the bus – e.g. for transfer to an external computer of the GFVS 3.0 Software – and is also transferred to the wireless network via the FAM14. Display also using FEA55D and FEA55LED.

The 7 segment LC display is also legible twice within a period of 2 weeks without power supply.

The power consumption is displayed with a LED flashing 1000 times per kWh next to the display.

Designed as standard for using as double-tariff meter: Switch over to a second tariff by applying 230V to terminals E1/E2.

On the right next to the display are the keys MODE and SELECT. Press them to scroll through the menu according to the operation manual. First the **background lighting** switches on. The display then shows the total active energy per tariff, the active energy per resettable memory RS1 or RS2, and the instantaneous values of consumption, voltage and current per phase.

Error message (false)
When the phase conductor is missing or the current direction is wrong 'false' and the corresponding phase conductor are indicated on the display.

DSZ14DRS-3x65A	Three-phase energy meter MID approval	EAN 4010312501443	**289,00 €/pc.**

Recommended retail prices excluding VAT.

DSZ14WDRS-3x5A

min | RS485 | MID



Two-way three-phase energy meter with settable CT ratio and MID. Maximum current 3x5A. Standby loss 0.4 watt per path only.

Modulair device for DIN-EN 60715 TH35 rail mounting in distribution cabinets with IP51 protection class. 4 modules = 70mm wide and 58mm deep.

Accuracy class B (1%). With RS485 interface.

This three-phase energy meter measures active energy by means of the current between input and output.

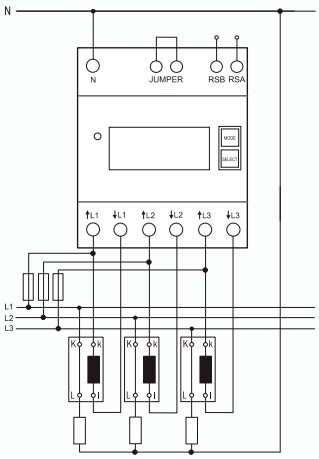
The internal power consumption of 0.4 watt active power per path is neither metered nor indicated.

1, 2 or 3 phase conductors with max. currents up to 5A can be connected.

The inrush current is 10mA.

The terminals 1L1 and N must always be connected .

Typical connection
4-wire-connection 3x230/400V



Connection to the Eltako RS485 bus by means of a 2-wire screened bus line (e.g. telephone line). The meter reading and the momentary capacity are transferred to the bus – e.g. for transfer to an external computer of the GFVS 3.0 Software – and is also transferred to the wireless network via the FAM14. Display also using FEA55D and FEA55LED.

The 7 segment LC display is also legible twice within a period of 2 weeks without power supply.

The power consumption is displayed with a LED flashing 10 times per kWh next to the display.

On the right next to the display are the keys MODE and SELECT. Press them to scroll through the menu. First the **background lighting** switches on. The display then shows the total active energy, the active energy of the resettable memory as well as the instantaneous values of consumption, voltage and current per phase

The CT ratio can also be set. It is set to 5:5 at the factory and blocked with a bridge over the terminals which are marked with 'JUMPER'. To adjust the CT ratio to the installed transformer remove the bridge and reset the energy meter according to the operation manual. Then block it again with the bridge. Adjustable current transformer ratios: 5:5, 50:5, 100:5, 150:5, 200:5, 250:5, 300:5, 400:5, 500:5, 600:5, 750:5, 1000:5, 1250:5 and 1500:5.

Error message (false)
When the phase conductor is missing or the current direction is wrong 'false' and the corresponding phase conductor are indicated on the display.

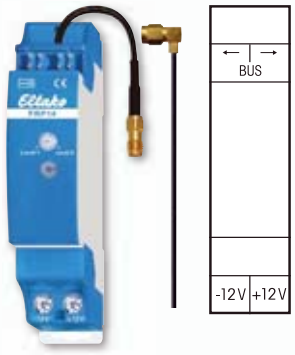
Important! Before working on the current transformers disconnect the voltage paths of the energy meters.

DSZ12WDRS-3x5A	Three-phase energy meter MID approval	EAN 4010312 501450	**289,00 €/pc.**

Recommended retail prices excluding VAT.

Wireless Repeater FRP14, Spacer DS14 and Housing for Operating Instructions GBA14

FRP14



1 and 2 level wireless repeater with small antenna. Only 0.6 watt standby loss. If required, a wireless antenna FA250 can be connected.

Modular device for DIN-EN 60715 TH35 rail mounting.
1 modul = 18 mm wide, 58 mm deep.

This repeater is only needed if the building conditions prevent undisturbed reception or the distance between the wireless pushbutton and receiver is too great.

Antenna FA250 with a 250 cm cable can be connected instead of the enclosed small antenna. When positioned in the optimal location, it can increase range considerably.

The 1-level mode is activated ex works. Only the signals from sensors and actuators are received, tested and retransmitted at full transmit power. Wireless signals from other repeaters are ignored to reduce the data volume.

A rotary switch is fitted to switch over to 2-level mode. The wireless signals of an additional 1-level repeater can also be processed. A signal can then be received and amplified maximum 2 times.

Wireless repeaters need not be taught-in. They receive and amplify signals from all wireless sensors within their reception area.

The LEDs under the rotary switch indicate all the wireless signals detected by briefly flashing.

The Wireless Repeater FRP14 can be installed either as a single device in a subdistributor panel. It then requires a 12 V power supply from a switch mode power supply unit FSNT12-12 V or SNT12-12 V. Or it is installed together with remote Series 14 wireless actuators and cross-wiring requires a jumper. There is no connection to the bus. It is only looped through.

FRP14	Wireless repeater	EAN 4010312313879	**80,80 €/pc.**

Spacer DS14



1/2 module wide = 9 mm, to produce and maintain a ventilation clearance for modular devices dissipating much heat, e.g. dimmers and switching power supply units.

Spacer DS14		EAN 4010312907016	**1,00 €/pc.**

Housing for operating instructions GBA14

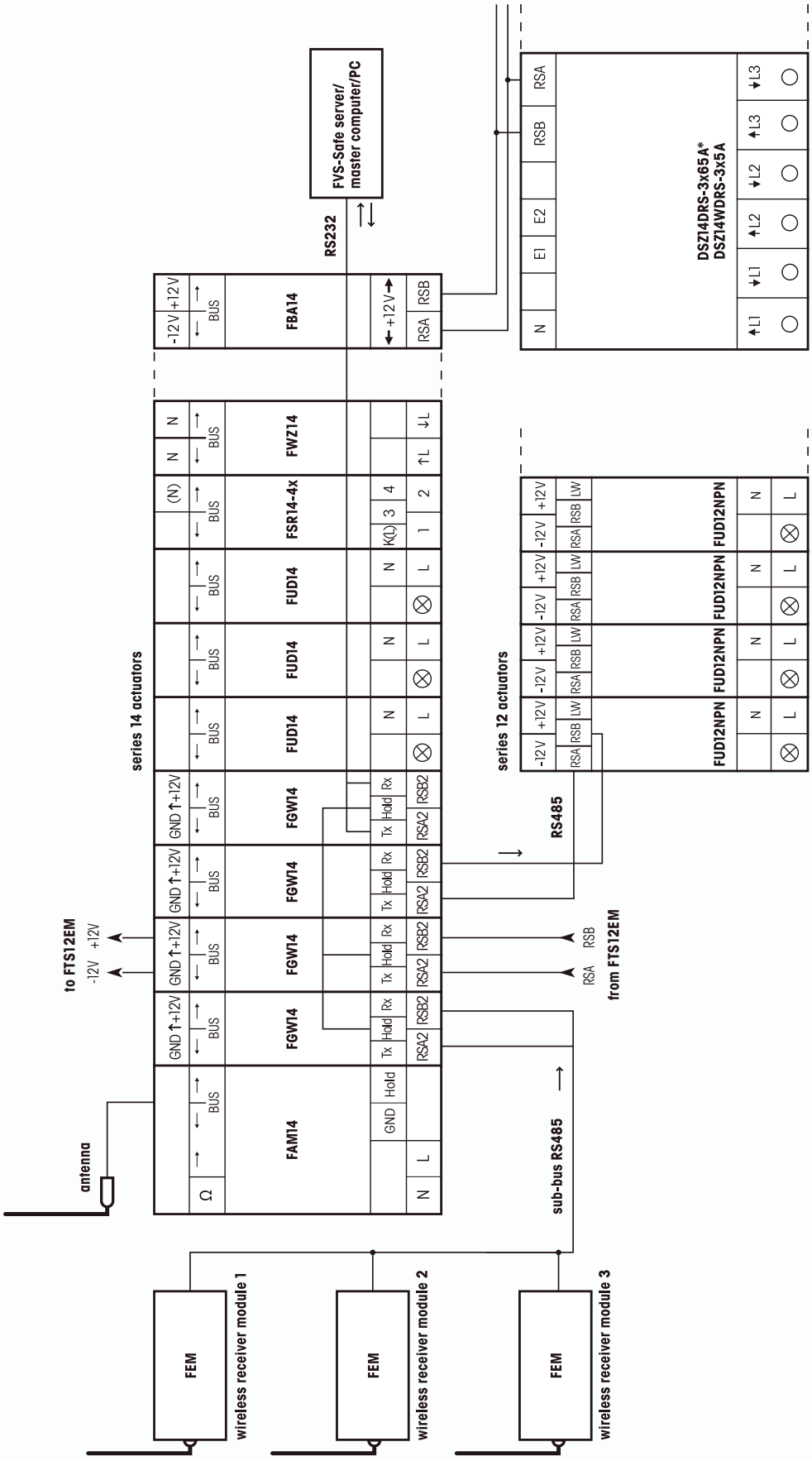


Modular device for DIN-EN 60715 TH35 rail mounting.
1 module = 18 mm wide, 55 mm deep.

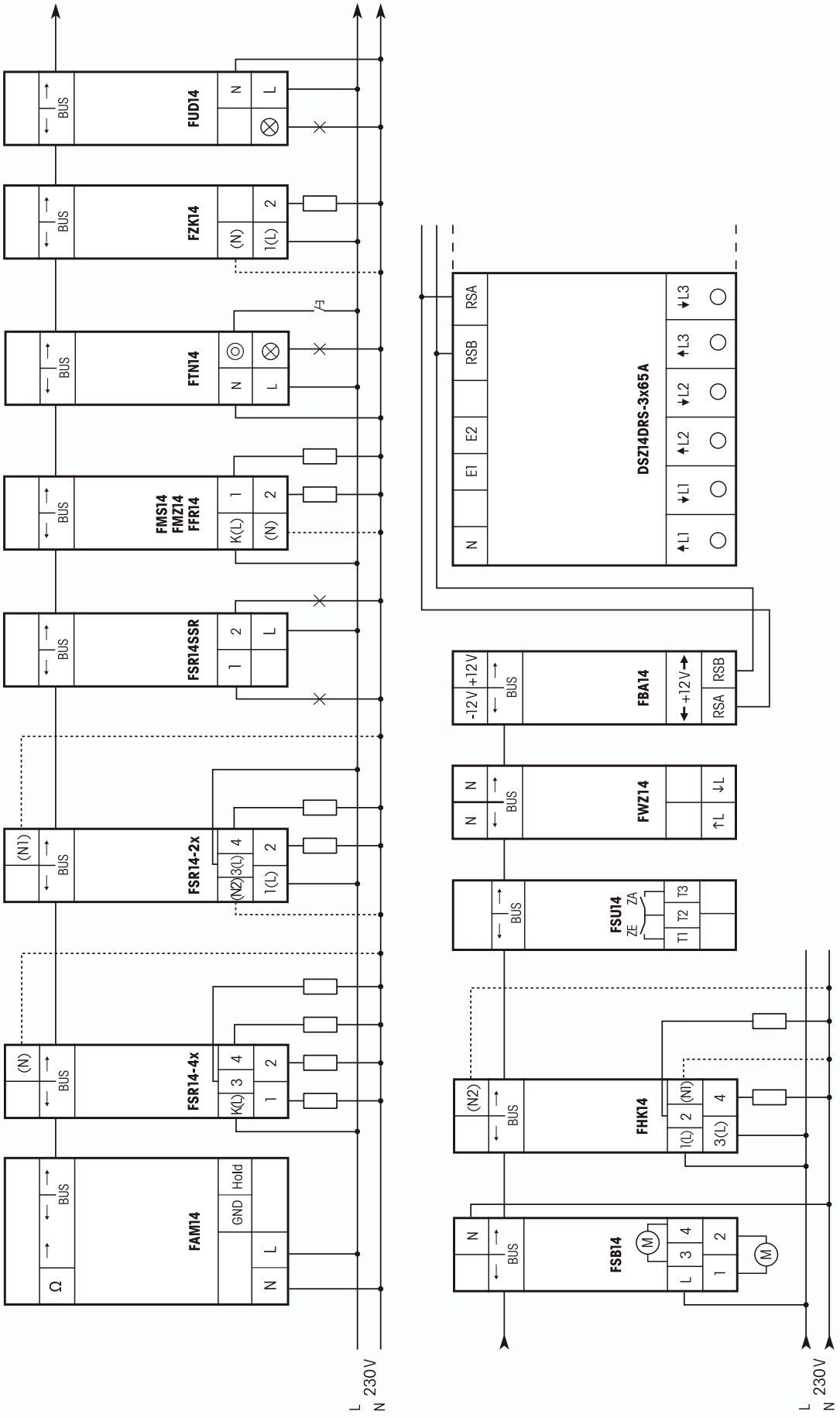
Housing without front panel to insert operating instructions.

GBA14	Housing for operating instructions	EAN 4010312906422	**1,50 €/pc.**

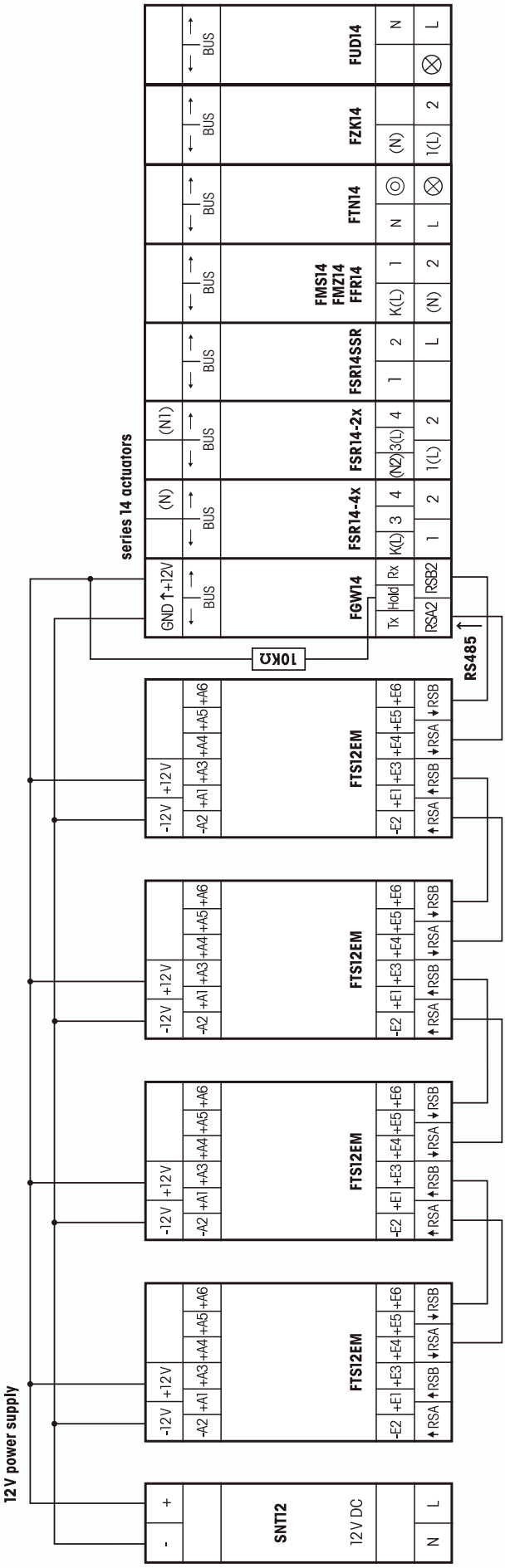
Recommended retail prices excluding VAT.



* Three-phase energy meters DSZ14 must be connected to the end of a bus line.
If the lines of the RS485 bus are longer than 2 m, a jumper with a terminating resistor must be plugged into the last actuator (included in the scope of supply of the FAM14) or a terminating resistor must be fitted to the RSB/RSA terminals of the last electricity meters (120 Ω, not supplied).



If the lines of the RS485 bus are longer than 2 m, a jumper with a terminating resistor must be plugged into the last actuator (included in the scope of supply of the FAM14) or a terminating resistor must be fitted to the RSB/RSA terminals of the last electricity meters (120 Ω, not supplied).



If the Series 14 bus must operate without the wireless antenna module FAM14 with integrated switch mode power supply unit, a switch mode power supply unit SNT12 is required for the power supply. An FGW14 is needed for bus access. Up to 10 FTS12EMs can be connected in this way.

Contacts	FSR14-4x, FSB14, FHK14	FUD14, FUD14/800W [7]	FSG14/1-10V [b]	FSR14-2x[b], FMS14, FTN14[b] FFR14, FMZ14, FZK14 [b]	FSR14SSR
Contact material/contact gap	$AgSnO_2$/0.5mm	Power MOSFET	$AgSnO_2$/0.5mm	$AgSnO_2$/0.5mm	Opto-Triac
Test voltage control connections/contact	–	–	–	2000V	4000V
Rated switching capacity each contact	4A/250V AC	–	600VA [5]	16A/250V AC; FMZ14: 10A/250V AC	up to 400W [6]
incandescent lamps and halogen lamp load 230V [2]	1000W I on ≤ 10A/10ms	up to 400W; FUD14/800W: up to 800W [1] [3] [4]	–	2000W I on ≤ 70A/10ms	up to 400W [6]
Fluorescent lamp load with KVG* in lead-lag circuit or non compensated	500VA	–	–	1000VA	–
Fluorescent lamp load with KVG* shunt-compensated or with EVG*	250VA, I on ≤ 10A/10ms	–	600VA [5]	500VA	up to 400VA [6]
Compact fluorescent lamps with EVG* and energy saving lamps ESL	up to 200W [9]	up to 400W [9] [1]	–	up to 400W [9]	up to 400W [6] [9]
Inductive load cos φ = 0,6/230V AC inrush current ≤ 35A	650W [8]	–	–	650W [8]	–
230V LED lamps	up to 200W [9]	up to 400W [9] [1]	–	up to 400W [9]	up to 400W [6] [9]
Max. switching current DC1: 12V/24V DC	4A	–	–	8A (not FTN14 and FZK14)	–
Life at rated load, cos φ = 1 or for incandescent lamps 500W at 100/h	$>10^5$	–	$>10^5$	$>10^5$	∞
Service life at rated load, cos φ = 0,6 at 100/h	$>4x10^4$	–	$>4x10^4$	$>4x10^4$	∞
Max. operating cyles	10^3/h	–	10^3/h	10^3/h	10^3/h
Maximum conductor cross-section (3-fold terminal)	6mm² (4mm²)	6mm² (4mm²)	6mm² (4mm²)	6mm² (4mm²)	6mm²
Two conductors of same cross-section (3-fold terminal)	2.5mm² (1.5mm²)	2.5mm² (1.5mm²)	2.5mm² (1.5mm²)	2.5mm² (1.5mm²)	2.5mm² (1.5mm²)
Screw head	slotted/crosshead, pozidriv	slotted/crosshead, pozidriv	slotted/crosshead, pozidriv	slotted/crosshead, pozidriv	slotted/crosshead, pozidriv
Type of enclosure/terminals	IP50/IP20	IP50/IP20	IP50/IP20	IP50/IP20	IP50/IP20
Electronics					
Time on	100%	100%	100%	100%	100%
Max./min. temperature at mounting location	+50°C/-20°C	+50°C/-20°C	+50°C/-20°C	+50°C/-20°C	+50°C/-20°C
Standby loss (active power)	0.1W	0.3W	0.9W	0.05-0.5W	0.1W
Local control current at 230V control input	–	–	–	5mA	–
Max. parallel capacitance (approx. length) of local control lead at 230V AC	–	–	–	FTN14: 0.3µF (1000m)	–

* EVG = electronic ballast units; KVG = conventional ballast units

[b] Bistable relay as relay contact. After installation, wait for short automatic synchronisation before teaching-in the wireless pushbuttons.

[1] If the load exceeds 200W, a ventilation clearance of 1/2 pitch unit to adjacent devices must be maintained.

[2] Applies to lamps of max. 150W.

[3] Per dimmer or capacity enhancer it is only allowed to use max. 2 inductive (wound) transformers of the same type, furthermore no-load operation on the secondary part is not permitted. The dimmer might be destroyed. Therefore do not permit load breaking on the secondary part. Operation in parallel of inductive (wound) and capacative (electronic) transformers is not permitted!

[4] When calculating the load a loss of 20% for inductive (wound) transformers and a loss of 5% for capacitive (electronic) transformers must be considered in addition to the lamp load.

[5] Fluorescent lamps or LV halogen lamps with electronic ballast.

[6] Applies to one contact and the sum of both contacts.

[7] Capacity increase for all dimmable lamp types with Capacity Enhancer FLUD14.

[8] All actuators with 2 contacts: Inductive load cos φ = 0.6 as sum of both contacts 1000W max.

[9] Generally applies to energy saving lamps (ESL) and 230V LED lamps. Due to different lamp electronics, switch on/off problems and a restriction in the maximum number of lamps, however, the dimming ranges may be limited depending on the manufacturer; in particular when the connected load is very low (e.g. with 5W LEDs). The dimmer switch comfort settings EC1, EC2, LC1, LC2 and LC3 optimise the dimming range, however, the maximum power is then only up to 100W. In these comfort settings, no inductive (wound) transformers may be dimmed.

If the RS485 bus lines are longer than 2m, the second terminating resistor connector must be plugged into the last actuator (included in the FAM14 scope of supply).

Eltako Wireless is based on the EnOcean wireless standard for 868MHz, frequency 868.3MHz, data rate 125kbps, modulation mode ASK, max. transmit power 7dBm (<10mW).

Compliance with: EN 61000-6-3, EN 61000-6-1 and EN 60669

Power requirement of the 12 V DC power supply of Series 14

The switching power supply unit in the FAM14 provides 12 V DC/12 W.

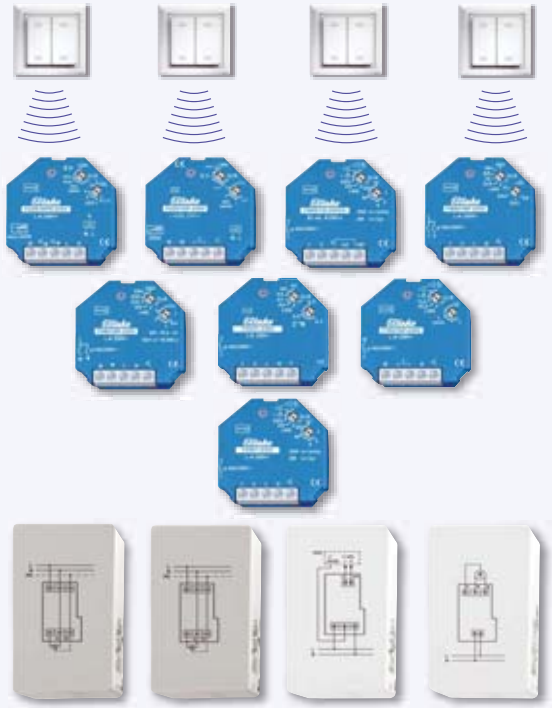
11.2 W are available, if 0.8 W of the FAM14 are considered.

The maximum power consumption of each connected device must be used to calculate the total power consumption of the 12 V DC power supply.

device	maximum power requirement (existing relay energized)
FAE14LPR	**0.42 W**
FAE14SSR	**0.40 W**
FAM14	**0.80 W**
FBA14	–
FFR14	**0.63 W**
FGSM14	**0.20 W**
FGW14	**0.50 W**
FHK14	**0.42 W**
FLUD14	–
FMS14	**0.63 W**
FMSR14	**0.10 W**
FMZ14	**0.40 W**
FRP14	**0.50 W**
FSB14	**0.42 W**
FSG14/1-10V	**0.20 W**
FSR14-2x	**0.14 W**
FSR14-4x	**0.70 W**
FSR14SSR	**0.40 W**
FSU14	**0.14 W**
FTN14	**0.14 W**
FTS12EM	**0.30 W**
FUD14	**0.20 W**
FUD14/800W	**0.20 W**
FZK14	**0.14 W**
STE14	–

Schematic diagram

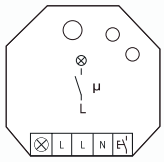
Eltako Wireless with decentralised mounting of built-in devices



Wireless actuator impulse switch with integr. relay function FSR61NP and FSR61NP with wireless sensor FTK	5-0
Wireless actuator impulse switches with integr. relay function FSR61/8-24 V UC, FSR61-230 V and noiseless FSR61G-230 V	5-2
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FSR61NP-230V





1 NO contact not potential free 10 A/250 V AC, incandescent lamps up to 2000 watts, off delay with switch-off early warning and switchable push-button permanent light. Bidirectional wireless and repeater function are switchable. Only 0.7 watt standby loss.

For installation. 45 mm long, 55 mm wide, 33 mm deep.
Switching voltage and control voltage local 230 V.

This wireless actuator features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics and a bistable relay with zero passage switching.

In addition to the wireless control input via an internal antenna, this wireless actuator can also be controlled locally by a conventional 230 V control switch if fitted previously. Glow lamp current is not permitted.

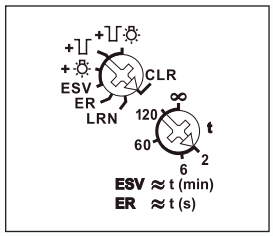
From production week 38/2012 **bidirectional wireless** and **repeater function** can be switched on. Every change in state and incoming central command telegrams are then confirmed by a wireless telegram. This wireless telegram can be taught-in in other actuators, in the FVS software and in FUA55 universal displays.

Scene control: several FSR61s can be switched on or off in a scene by one of the four control signals of a double-rocker pushbutton taught-in as scene pushbutton.

With the top rotary switch in the setting LRN up to 35 wireless pushbuttons can be assigned, of which one or more central control pushbuttons. In addition wireless window/door contacts with the function N/O contact or N/C contact while the window is open, wireless outdoor brightness sensors FAH and wireless motion/brightness sensors FBH. The required function of the impulse switch with integrated relay function can then be selected:

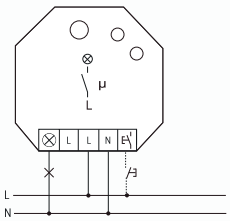
ER = switching relay
ESV = impulse switch. Possibly with off delay, then:
+ ☼ = ESV with pushbutton permanent light
+ ⎍ = ESV with switch-off early warning
+ ⎍☼ = ESV with pushbutton permanent light and switch-off early warning

Function rotary switches



Standard setting ex works.

Typical connection



If the permanent light function ☼ is switched on, the function can be activated by pressing the pushbutton for longer than 1 second. This function switches off automatically after 2 hours or by pressing the pushbutton.

If the switch-off early warning ⎍ is switched on, the light starts to flicker approx. 30 seconds before time-out. This is repeated three times at decreasing time intervals.

If both switch-off early warning and pushbutton permanent light ⎍☼ are switched on, switch-off early warning is activated before automatic switch-off of the permanent light.

The function ESV **on the bottom rotary switch** sets the off delay from 2 to 120 minutes. In setting ∞ normal impulse switch function ES without off delay, without pushbutton permanent light and without switch-off early warning.

In setting ER = switching relay of the other rotary switch, this 2nd rotary switch fulfils a safety and power saving function in the settings except ∞. If the switch-off command is not recognised, e.g. since the pushbutton is jammed or it was pressed too quickly, the relay switches off automatically on expiry of a time adjustable between 2 and 120 seconds. When a FTK is taught-in, this time function is turned off.

If there are **open flames,** waste air fans may only be switched on if the windows are open to ensure oxygen supply. See combination FSR61NP-230V+FTK below.

Twilight switch with taught-in wireless outdoor brightness sensor FAH and then in function setting ESV. In time setting 120 the contact opens with a delay of 4 minutes if the brightness level is sufficient. In time setting ∞ the contact opens instantly. The local and central push-button control is still possible.

Motion detection with taught-in wireless motion detector FBH in function setting ER. The device switches on when motion is detected. If no more motion is detected, the contact opens after the time delay setting t = 2 to 255 seconds (Position ∞).

Outdoor brightness sensor and motion detector can be used together with function setting ER to evaluate motion only in darkness. If the FAH detects brightness, the contact opens immediately.

When teaching-in, the switching threshold is also taught-in: between break of twilight and complete darkness.

The LED performs during the teach-in process according to the operation manual.
It shows wireless control commands by short flickering during operation.

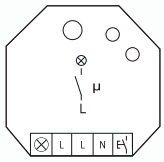
Technical data page **T**-1.

FSR61NP-230V	Wireless actuator Impulse switch with integr. relay function	EAN 4010312300190	**73,60 €/pc.**

Recommended retail prices excluding VAT.

FSR61NP-230V+FTK-rw





For the control of extractor hoods etc.

1 NO contact not potential free 10A/250V AC. Bidirectional wireless and repeater function are switchable. Only 0.7 watt standby loss.

For installation. 45mm long, 55mm wide, 33mm deep.

Switching voltage and control voltage local 230V.

This wireless actuator features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics and a bistable relay with zero passage switching.

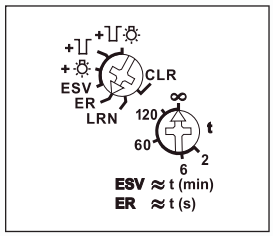
By using a bistable relay coil power loss and heating is avoided even in the on mode. After installation, wait for short automatic synchronisation before the switched consumer is connected to the mains.

From production week 38/2012 **bidirectional wireless** and **repeater function** can be switched on. Every change in state and incoming central command telegrams are then confirmed by a wireless telegram. This wireless telegram can be taught-in in other actuators, in the FVS software and in FUA55 universal displays.

The rotary switches are set to the correct positions ER and ∞ at the factory.
The FTK-rw is already taught-in to the FSR61NP-230V.

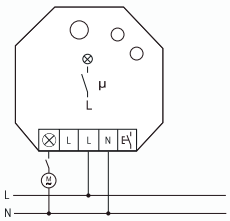
If a repeated teach-in is necessary after integration in a larger wireless system, please refer to the operating manuals of the FSR61NP-230V and the FTK-rw. They are available on the www.eltako.com website under 'Operating instructions'.

Function rotary switches



Standard setting ex works.

Typical connection





FTK-rw

Wireless window/door contact 75x25x12mm, pure white

The batteryless window/door contact FTK-rw powers itself from a solar cell and stores the energy for night operation.

A signal is transmitted when the contact is opened or closed.
Every 15 minutes a signal indicating the current status is also transmitted.

Adhesive foil mounting. Protection class IP54, therefore suitable for outdoor mounting.

Window/door contact dimensions lxwxh: 75x25x12mm;
magnet dimensions lxwxh: 37x10x6mm.

Solar-powered energy accumulator.

For testing porposes or for operating the device, the FTK-rw needs to be charged several hours at daylight or at artificial light.

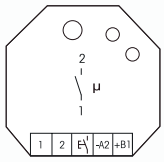
Technical data page **T**-1.

FSR61NP-230V+FTK-rw	Wireless actuator – Impulse switch with integr. relay function with FTK-rw	EAN 4010312300916	**142,70 €/pc.**

Recommended retail prices excluding VAT.

FSR61/8-24 V UC





1 NO contact potential free 10 A/250 V AC, incandescent lamps up to 2000 watts, off delay with switch-off early warning and switchable push-button permanent light. Bidirectional wireless and repeater function are switchable. Only 0.3-0.8 watt standby loss.

For installation. 45 mm long, 55 mm wide, 33 mm deep.

Supply voltage and if necessary control voltage locally 8 to 24 V UC.

This wireless actuator features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics with a bistable relay.

In addition to the wireless control input via an internal antenna, this wireless actuator can also be controlled locally by a conventional control switch if fitted previously. Glow lamp current is not permitted.

From production week 41/2012 **bidirectional wireless** and **repeater function** can be switched on. Every change in state and incoming central command telegrams are then confirmed by a wireless telegram. This wireless telegram can be taught-in in other actuators like the FSR61NP-230 V, in the FVS software and in FUA55 universal displays.

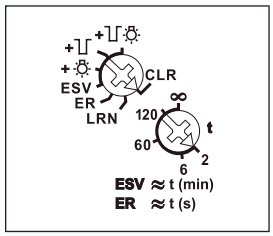
Scene control: several FSR61s can be switched on or off in a scene by one of the four control signals of a double-rocker pushbutton taught-in as scene pushbutton.

With the top rotary switch in the setting LRN up to 35 wireless pushbuttons can be assigned, of which one or more central control pushbuttons. In addition wireless window/door contacts with the function N/O contact or N/C contact while the window is open, wireless outdoor brightness sensors FAH and wireless motion/brightness sensors FBH. The required function of the impulse switch with integrated relay function can then be selected:

ER = switching relay

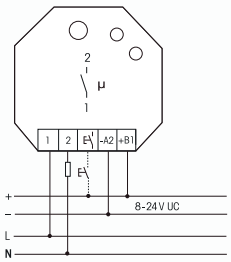
ESV = impulse switch. Possibly with off delay, then:
+ ☼ = ESV with pushbutton permanent light
+ ⎍ = ESV with switch-off early warning
+ ⎍☼ = ESV with pushbutton permanent light and switch-off early warning

Function rotary switches



Standard setting ex works.

Typical connection



If the permanent light function ☼ is switched on, the function can be activated by pressing the pushbutton for longer than 1 second. This function switches off automatically after 2 hours or by pressing the pushbutton.

If the switch-off early warning ⎍ is switched on, the light starts to flicker approx. 30 seconds before time-out. This is repeated three times at decreasing time intervals.

If both switch-off early warning and pushbutton permanent light ⎍☼ are switched on, switch-off early warning is activated before automatic switch-off of the permanent light.

The function ESV **on the bottom rotary switch** sets the off delay from 2 to 120 minutes. In setting ∞ normal impulse switch function ES without off delay, without pushbutton permanent light and without switch-off early warning.

In setting ER = switching relay of the other rotary switch, this 2nd rotary switch fulfils a safety and power saving function in the settings except ∞. If the switch-off command is not recognised, e.g. since the pushbutton is jammed or it was pressed too quickly, the relay switches off automatically on expiry of a time adjustable between 2 and 120 seconds. When a FTK is taught-in, this time function is turned off.

Twilight switch with taught-in wireless outdoor brightness sensor FAH and then in function setting ESV. In time setting 120 the contact opens with a delay of 4 minutes if the brightness level is sufficient. In time setting ∞ the contact opens instantly. The local and central pushbutton control is still possible.

Motion detection with taught-in wireless motion detector FBH in function setting ER. The device switches on when motion is detected. If no more motion is detected, the contact opens after the time delay setting t = 2 to 255 seconds (Position ∞).

Outdoor brightness sensor and motion detector can be used together with function setting ER to evaluate motion only in darkness. If the FAH detects brightness, the contact opens immediately.

When teaching-in, the switching threshold is also taught-in: between break of twilight and complete darkness.

The LED performs during the teach-in process according to the operation manual. It shows wireless control commands by short flickering during operation.

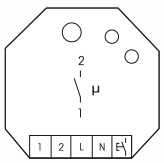
Technical data page **T**-1.

FSR61/8-24V UC	Wireless actuator Impulse switch with integr. relay function	EAN 4010312301357	**70,50 €/pc.**

Recommended retail prices excluding VAT.

FSR61-230V





1 NO contact potential free 10A/250V AC, incandescent lamps up to 2000 watts, off delay with switch-off early warning and switchable push-button permanent light. Bidirectional wireless and repeater function are switchable. Only 0.6 watt standby loss.

For installation. 45mm long, 55mm wide, 33mm deep.

Supply voltage and if necessary control voltage locally 230V.

This wireless actuator features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics with a bistable relay.

In addition to the wireless control input via an internal antenna, this universal impulse switching relay can also be controlled locally by a conventional control switch if fitted previously. Glow lamp current is not permitted.

From production week 41/2012 **bidirectional wireless** and **repeater function** can be switched on. Every change in state and incoming central command telegrams are then confirmed by a wireless telegram. This wireless telegram can be taught-in in other actuators, in the FVS software and in FUA55 universal displays.

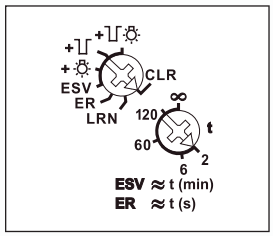
Scene control: several FSR61s can be switched on or off in a scene by one of the four control signals of a double-rocker pushbutton taught-in as scene pushbutton.

With the top rotary switch in the setting LRN up to 35 wireless pushbuttons can be assigned, of which one or more central control pushbuttons. In addition wireless window/door contacts with the function N/O contact or N/C contact while the window is open, wireless outdoor brightness sensors FAH and wireless motion/brightness sensors FBH. The required function of the impulse switch with integrated relay function can then be selected:

ER = switching relay

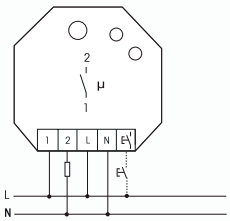
ESV = impulse switch. Possibly with off delay, then:
+ ☼ = ESV with pushbutton permanent light
+ ⎍ = ESV with switch-off early warning
+ ⎍☼ = ESV with pushbutton permanent light and switch-off early warning

Function rotary switches



Standard setting ex works.

Typical connection



If the permanent light function ☼ is switched on, the function can be activated by pressing the pushbutton for longer than 1 second. This function switches off automatically after 2 hours or by pressing the pushbutton.

If the switch-off early warning ⎍ is switched on, the light starts to flicker approx. 30 seconds before time-out. This is repeated three times at decreasing time intervals.

If both switch-off early warning and pushbutton permanent light ⎍☼ are switched on, switch-off early warning is activated before automatic switch-off of the permanent light.

The function ESV **on the bottom rotary switch** sets the off delay from 2 to 120 minutes. In setting ∞ normal impulse switch function ES without off delay, without pushbutton permanent light and without switch-off early warning.

In setting ER = switching relay of the other rotary switch, this 2nd rotary switch fulfils a safety and power saving function in the settings except ∞. If the switch-off command is not recognised, e.g. since the pushbutton is jammed or it was pressed too quickly, the relay switches off automatically on expiry of a time adjustable between 2 and 120 seconds. When a FTK is taught-in, this time function is turned off.

Twilight switch with taught-in wireless outdoor brightness sensor FAH and then in function setting ESV. In time setting 120 the contact opens with a delay of 4 minutes if the brightness level is sufficient. In time setting ∞ the contact opens instantly. The local and central pushbutton control is still possible.

Motion detection with taught-in wireless motion detector FBH in function setting ER. The device switches on when motion is detected. If no more motion is detected, the contact opens after the time delay setting t = 2 to 255 seconds (Position ∞).

Outdoor brightness sensor and motion detector can be used together with function setting ER to evaluate motion only in darkness. If the FAH detects brightness, the contact opens immediately.

When teaching-in, the switching threshold is also taught-in: between break of twilight and complete darkness.

The LED performs during the teach-in process according to the operation manual. It shows wireless control commands by short flickering during operation.

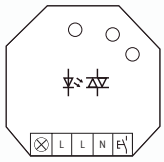
Technical data page **T**-1.

FSR61-230V	Wireless actuator Impulse switch with integr. relay function	EAN 4010312301531	**70,50 €/pc.**

Recommended retail prices excluding VAT.

FSR61G-230V





Noiseless solid-state relay not potential-free, 400 Watt, off delay with switch-off early warning and switchable pushbutton permanent light. Bidirectional wireless and repeater function are switchable. Only 0.7 watt standby loss.

For installation. 45 mm long, 55 mm wide, 33 mm deep.

Switching voltage and control voltage local 230 V.

At a load of < 1 W a GLE has to be switched parallely to the load.

This wireless actuator offers the latest in hybrid technology developed by us: we combined wear-free receiver and evaluation electronics with zero passage switching solid state relays.

In addition to the wireless control input via an internal antenna, this wireless actuator can also be controlled locally by a conventional 230 V control pushbutton mounted upstream.
Glow lamp current is not approved.

From production week 41/2012 **bidirectional wireless** and **repeater function** can be switched on. Every change in state and incoming central command telegrams are then confirmed by a wireless telegram. This wireless telegram can be taught-in in other actuators like the FSR61NP-230 V, in the FVS software and in FUA55 universal displays.

Scene control: several FSR61s can be switched on or off in a scene by one of the four control signals of a double-rocker pushbutton taught-in as scene pushbutton.

With the top rotary switch in the setting LRN up to 35 wireless pushbuttons can be assigned therefrom one ore more central control pushbuttons. In addition wireless window/door contacts with the function N/O contact or N/C contact while the window is open, wireless outdoor brightness sensors FAH and wireless motion/brightness sensors FBH. The required function of the impulse switch with integrated relay function can then be selected:

ER = switching relay

ESV = impulse switch. Possibly with off delay, then:
- \+ ☼ = ESV with pushbutton permanent light
- \+ ⎍ = ESV with switch-off early warning
- \+ ⎍☼ = ESV with pushbutton permanent light and switch-off early warning

If the permanent light function ☼ is switched on, the function can be activated by pressing the pushbutton for longer than 1 second. This function switches off automatically after 2 hours or by pressing the pushbutton.

If the switch-off early warning ⎍ is switched on, the light starts to flicker approx. 30 seconds before time-out. This is repeated three times at decreasing time intervals.

If both switch-off early warning and pushbutton permanent light ⎍☼ are switched on, switch-off early warning is activated before automatic switch-off of the permanent light.

The function ESV **on the bottom rotary switch** sets the off delay from 2 to 120 minutes. In setting ∞ normal impulse switch function ES without off delay, without pushbutton permanent light and without switch-off early warning.

In setting ER = switching relay of the other rotary switch, this 2nd rotary switch fulfils a safety and power saving function in the settings except ∞. If the switch-off command is not recognised, e.g. since the pushbutton is jammed or it was pressed too quickly, the relay switches off automatically on expiry of a time adjustable between 2 and 120 seconds. When a FTK is taught-in, this time function is turned off.

Twilight switch with taught-in wireless outdoor brightness sensor FAH and then in function setting ESV. In time setting 120 the contact opens with a delay of 4 minutes if the brightness level is sufficient. In time setting ∞ the contact opens instantly.
The local and central push-button control is still possible.

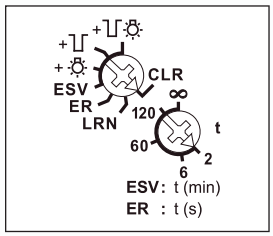
Motion detection with taught-in wireless motion detector FBH in function setting ER. The device switches on when motion is detected. If no more motion is detected, the contact opens after the time delay setting t = 2 to 255 seconds (Position ∞).

Outdoor brightness sensor and motion detector can be used together with function setting ER to evaluate motion only in darkness. If the FAH detects brightness, the contact opens immediately.

When teaching-in, the switching threshold is also taught-in: between break of twilight and complete darkness.

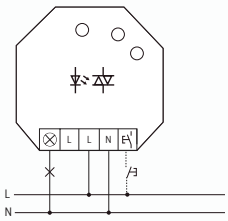
The LED accompanies the teaching-in process according to the operating instruction and displays the wireless control commands by short flickering in operating mode.

Function rotary switches



Standard setting ex works.

Typical connection



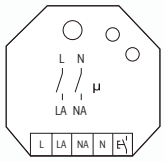
Technical data page **T**-1.

FSR61G-230V	Wireless actuator – Impulse switch with integrated relay function	EAN 4010312313886	**73,60 €/pc.**

Unverbindliche Preisempfehlung zuzüglich gesetzl. MwSt.

FSR61LN-230V





2 NO contacts for bipolar switching of L and N 10A/250V AC, incandescent lamps up to 2000 watts, off delay with switch-off early warning and switchable pushbutton permanent light. Bidirectional wireless and repeater function are switchable. Only 0.7 watt standby loss.

For installation. 45mm long, 55mm wide, 33mm deep.

Switching voltage and control voltage local 230V.

This wireless actuator features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics with a bistable relay with zero passage switching.

In addition to the wireless control input via an internal antenna, this universal impulse switching relay can also be controlled locally by a conventional control switch if fitted previously. Glow lamp current is not permitted.

From production week 41/2012 **bidirectional wireless** and **repeater function** can be switched on. Every change in state and incoming central command telegrams are then confirmed by a wireless telegram. This wireless telegram can be taught-in in other actuators like the FSR61NP-230V, in the FVS software and in FUA55 universal displays.

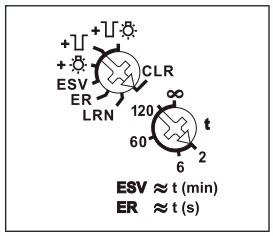
Scene control: several FSR61LNs can be switched on or off in a scene by one of the four control signals of a double-rocker pushbutton taught-in as scene pushbutton.

With the top rotary switch in the setting LRN up to 35 wireless pushbuttons can be assigned, of which one or more central control pushbuttons. In addition wireless window/door contacts with the function N/O contact or N/C contact while the window is open. The required function of the impulse switch with integrated relay function can then be selected:

ER = switching relay

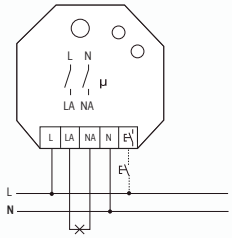
ESV = impulse switch. Possibly with off delay, then:
+ ☼ = ESV with pushbutton permanent light
+ ⎍ = ESV with switch-off early warning
+ ⎍☼ = ESV with pushbutton permanent light and switch-off early warning

Function rotary switches



Standard setting ex works.

Typical connection



If the permanent light function ☼ is switched on, the function can be activated by pressing the pushbutton for longer than 1 second. This function switches off automatically after 2 hours or by pressing the pushbutton.

If the switch-off early warning ⎍ is switched on, the light starts to flicker approx. 30 seconds before time-out. This is repeated three times at decreasing time intervals.

If both switch-off early warning and pushbutton permanent light ⎍☼ are switched on, switch-off early warning is activated before automatic switch-off of the permanent light.

The function ESV **on the bottom rotary switch** sets the off delay from 2 to 120 minutes. In setting ∞ normal impulse switch function ES without off delay, without pushbutton permanent light and without switch-off early warning.

In setting ER = switching relay of the other rotary switch, this 2nd rotary switch fulfils a safety and power saving function in the settings except ∞. If the switch-off command is not recognised, e.g. since the pushbutton is jammed or it was pressed too quickly, the relay switches off automatically on expiry of a time adjustable between 2 and 120 seconds. When a FTK is taught-in, this time function is turned off.

Twilight switch with taught-in wireless outdoor brightness sensor FAH and then in function setting ESV. In time setting 120 the contact opens with a delay of 4 minutes if the brightness level is sufficient. In time setting ∞ the contact opens instantly. The local and central pushbutton control is still possible.

Motion detection with taught-in wireless motion detector FBH in function setting ER. The device switches on when motion is detected. If no more motion is detected, the contact opens after the time delay setting t = 2 to 255 seconds (Position ∞).

Outdoor brightness sensor and motion detector can be used together with function setting ER to evaluate motion only in darkness. If the FAH detects brightness, the contact opens immediately.

When teaching-in, the switching threshold is also taught-in: between break of twilight and complete darkness.

The LED performs during the teach-in process according to the operation manual. It shows wireless control commands by short flickering during operation.

Technical data page **T**-1.

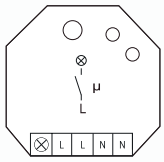
FSR61LN-230V	Wireless actuator Impulse switch with integr. relay function	EAN 4010312313190	**70,50 €/pc.**

Recommended retail prices excluding VAT.

Wireless Actuator – Impulse Switch with integr. relay function with current measurement FSR61VA-10A

FSR61VA-10A





1 NO contact not potential free 10A/250V AC, incandescent lamps up to 2000 watts, off delay with switch-off early warning and switchable push-button permanent light. With integrated current measurement up to 10A. Bidirectional wireless and repeater function are switchable. Only 0.7 watt standby loss.

For installation. 45mm long, 55mm wide, 33mm deep.

Supply voltage 230V.

This wireless actuator features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics and a bistable relay.

Apparent power is measured by the integrated current measurement from approx. 10VA to 2300VA when the contact is closed. A wireless telegram is transmitted into the Eltako wireless network within 30 seconds after switching on the load or after a change in power by min 5% and cyclically every 10 minutes. Signal evaluated by the Wireless Visualisation and Control Software FVS or the energy consumption indicators FEA55.

Evaluation on the computer with Eltako Wireless Building Visualisation and Control Software GFVS or with energy consumption indicators FEA55LED or FEA55D. GFVS-Energy supports up to 100 transmitter modules and GFVS 3.0 up to 250 transmitter modules.

From production week 03/2013 **bidirectional wireless** and **repeater** function can be switched on. Every change in state and incoming central command telegrams are confirmed by a wireless telegram. This wireless telegram can be taught-in in other actuators, in the GFVS software and in FUA55 universal displays.

Scene control: several FSR61s can be switched on or off in a scene by one of the four control signals of a double-rocker pushbutton taught-in as scene pushbutton.

With the top rotary switch in the setting LRN up to 35 wireless pushbuttons can be assigned therefrom one ore more central control pushbuttons. In addition wireless window/door contacts with the function N/O contact or N/C contact while the window is open. The required function of the impulse switch with integrated relay function can then be selected:

ER = switching relay

ESV = impulse switch. Possibly with off delay, then
- \+ ☼ = ESV with pushbutton permanent light
- \+ ⎍ = ESV with switch-off early warning
- \+ ⎍☼ = ESV with pushbutton permanent light and switch-off early warning

If the permanent light function ☼ is switched on, the function can be activated by pressing the pushbutton for longer than 1 second. This function switches off automatically after 2 hours or by pressing the pushbutton.

If the switch-off early warning ⎍ is switched on, the light starts to flicker approx. 30 seconds before time-out. This is repeated three times at decreasing time intervals.

If both switch-off early warning and pushbutton permanent light ⎍☼ are switched on, switch-off early warning is activated before automatic switch-off of the permanent light.

The function ESV on **the bottom rotary switch** sets the off delay from 2 to 120 minutes. In setting ∞ normal impulse switch function ES without off delay, without pushbutton permanent light and without switch-off early warning.

In setting ER = switching relay of the other rotary switch, this 2nd rotary switch fulfils a safety and power saving function in the settings except ∞. If the switch-off command is not recognised, e.g. since the pushbutton is jammed or it was pressed too quickly, the relay switches off automatically on expiry of a time adjustable between 2 and 120 seconds. When a FTK is taught-in, this time function is turned off.

Twilight switch with taught-in wireless outdoor brightness sensor FAH and then in function setting ESV. In time setting 120 the contact opens with a delay of 4 minutes if the brightness level is sufficient. In time setting 4 the contact openys instantly. The local and central pushbutton control is still possible.

Motion detection with taught-in wireless motion detector FBH in function setting ER. The device switches on when motion is detected. If no more motion is detected, the contact opens after the time delay setting t = 2 to 255 seconds (Position ∞).

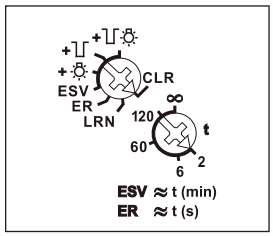
Outdoor brightness sensor and motion detector can be used together with function setting ER to evaluate motion only in darkness. If the FAH detects brightness, the contact opens immediately.

When teaching-in, the switching threshold is also taught-in: between break of twilight and complete darkness.

The LED performs during the teach-in process according to the operation manual. It shows wireless control commands by short flickering during operation.

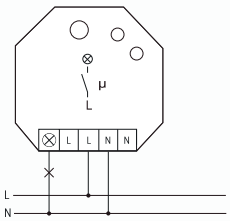
Technical data page **T**-1.

Function rotary switches



Standard setting ex works.

Typical connection

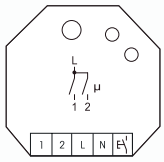


FSR61VA-10A	Wireless actuator - Impulse switch with integr. relay function with current measurement	EAN 4010312311462	**73,70 €/pc.**

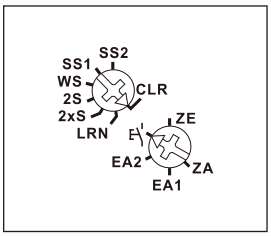
Recommended retail prices excluding VAT.

FMS61NP-230V



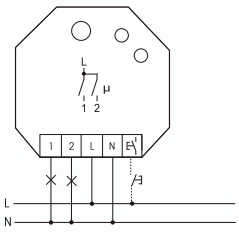


Function rotary switches



Standard setting ex works.

Typical connection



1+1 NO contacts not potential free 10 A/250 V AC, incandescent lamps up to 2000 watts. Bidirectional wireless and repeater function are switchable. Only 0.7 watt standby loss.

For installation. 45 mm long, 55 mm wide, 33 mm deep.

Switching voltage and control voltage local 230 V.

This wireless actuator is a multifunction impulse switch and features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics and two bistable relays with zero passage switching.

By using a bistable relay coil power loss and heating is avoided even in the on mode. After installation, wait for short automatic synchronisation before the switched consumer is connected to the mains.

In addition to the wireless control input via an internal antenna, this multifunction impulse switch can also be controlled locally by a conventional 230 V control switch previously mounted (in the 2xS function only contact 1).

From production week 46/2012 **bidirectional wireless** and **repeater function** can be switched on. Every change in state and incoming central command telegrams are then confirmed by a wireless telegram. This wireless telegram can be taught-in in other actuators, in the FVS software and in FUA55 universal displays.

With the top rotary switch in the setting LRN up to 35 wireless pushbuttons can be assigned, of which one or more central control pushbuttons. The required function of this multifunction impulse switch can then be selected. Switching will be visualised by flashing of the LED.

2xS = 2fold impulse switch each with 1 NO contact
2S = impulse switch with 2 NO contacts
WS = impulse switch with 1 NO contact and 1 NC contact
SS1 = impulse multicircuit switch 1 + 1 NO contact with switching sequence 1
SS2 = impulse multicircuit switch 1 + 1 NO contact with switching sequence 2

Switching sequence SS1: 0 - contact 1 - contact 2 - contacts 1+2
Switching sequence SS2: 0 - contact 1 - contacts 1+2 - contact 2

The bottom rotary switch is only required to teach-in the transmitters.

The LED performs during the teach-in process according to the operation manual.
It shows wireless control commands by short flickering during operation.

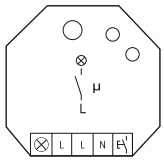
Technical data page **T**-1.

FMS61NP-230V	Wireless actuator Multifunction impulse switch	EAN 4010312300268	**74,10 €/pc.**

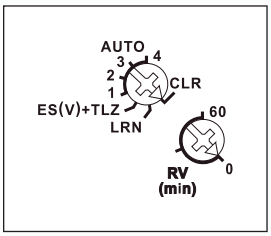
Recommended retail prices excluding VAT.

FLC61NP-230V



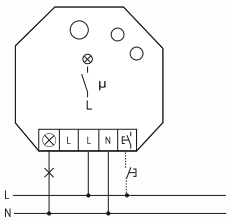


Function rotary switches



Standard setting ex works.

Typical connection



1 NO contact not potential free 10 A/250 V AC, incandescent lamps 2000 watts, 5 selectable operating modes. Bidirectional wireless and with repeater function. Only 0.7 watt standby loss.

For installation. 45 mm long, 55 mm wide, 33 mm deep.

Switching voltage and control voltage local 230 V.

This wireless actuator features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics and a bistable relay with zero passage switching.

In addition to the wireless control input via an internal antenna, this wireless actuator can also be controlled locally by a conventional 230 V control pushbutton mounted upstream. Glow lamp current is not approved.

With **bidirectional wireless;** in addition, a **repeater** function can be switched in. Every change in state and incoming central command telegrams are confirmed by a wireless telegram. This wireless telegram can be taught-in in other actuators, in the FVS software and in FUA55 universal displays.

With the top rotary switch in the setting LRN up to 35 wireless pushbuttons can be assigned therefrom one ore more central control pushbuttons. In addition, wireless motion and brightness sensors. Then select the required operating mode:

ES(V)+TLZ: In this mode, the normal impulse switch function with buttons is active. Use the lower rotary switch RV to set a time delay between 0 and 60 minutes for the ESV function. Press the universal buttons to switch on and off. The staircase time switch function TLZ results from the Central ON buttons and a time delay set using the rotary switch RV.

AUTO1: In AUTO1 mode, (semi automatic motion: only switch off motion controlled), switch on/off takes place by means of universal buttons or central control buttons. Switch-off takes place by means of one or several wireless motion sensors (e.g. FBH63 or FABH63) in case of no motion on expiry of the time delay set between 0 and 60 minutes using the lower rotary switch RV.

AUTO2: In AUTO2 mode (semi automatic motion and brightness: only switch off, motion and brightness controlled), switch on/off takes place by means of the universal buttons or central control buttons. Switch-off takes place by means of one or several wireless motion/brightness sensors (e.g. FBH63) in case of no motion or insufficient brightness on expiry of the time delay set between 0 and 60 minutes using the lower rotary switch RV.

AUTO3: In AUTO3 mode, (fully automatic motion: switch on and off, motion controlled), switch-on takes place in case of brightness threshold undershoot by means of one or several wireless motion/brightness sensors (e.g. FBH63 or FABH63) and switch-off takes place in case of no motion on expiry of time delay set between 0 and 60 minutes using lower rotary switch RV. In addition, switch on/off takes place by means of universal buttons or central control buttons.

AUTO4: In AUTO4 mode (fully automatic motion and brightness: switch on and off, motion and brightness controlled), switch-on takes place in case of brightness threshold undershoot by means of one or several wireless motion/brightness sensors (e.g. FBH63) and switch-off takes place in case of no motion or sufficient brightness on expiry of time delay set between 0 and 60 minutes using lower rotary switch RV. In addition, switch on/off takes place by means of universal buttons or central control buttons.

One FBH in the room is sufficient to measure brightness when the lighting comprises fluorescent lamps, energy saving lamps or LED lamps. If lighting consists of electric light bulbs or halogen lamps, an outdoor brightness sensor must be taught-in as Master (e.g. FAH60 or FAH63) for operating modes AUTO2 and AUTO4.

If several sensors are taught-in, switch-off only takes place when all sensors report no motion or sufficient brightness.

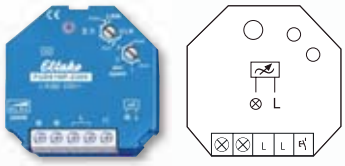
The LED performs during the teach-in process according to the operation manual. It shows wireless control commands by short flickering during operation.

Technical data page **T**-1.

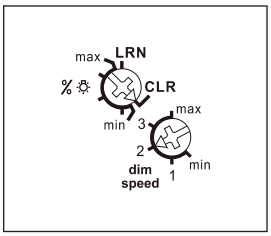
FLC61NP-230V	Wireless actuator Light controller	EAN 4010312312032	**75,50 €/pc.**

Recommended retail prices excluding VAT.

FUD61NP-230V

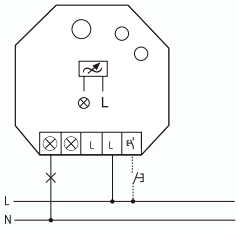


Function rotary switches



Standard setting ex works.

Typical connection



Without N connection, power MOSFET up to 300W. Only 0.7 watt standby loss. With adjustable minimum brightness and dimming speed. With switching operation for children's rooms and snooze function. Light scenes can be taught-in. Bidirectional wireless and repeater function are switchable.

For installation. 45mm long, 55mm wide, 33mm deep.

Universal dimmer switch for R, L and C loads up to 300 watts, depending on ventilation conditions. Automatic detection of load R+L or R+C.

Without N connection, therefore it is suitable for mounting directly behind the pushbutton light switch, even if there is no N wire.

Energy saving lamps ESL and LED lamps cannot be controlled by dimmers without N-connection.

230V local switching voltage and control voltage. Minimum load only 40W.

Zero passage switching with soft ON and soft OFF to protect lamps.

The brightness level is stored on switch-off (memory).

In case of a power failure the switch position is stored and may be switched on when the power supply is restored.

Automatic electronic overload protection and overtemperature switch-off.

The minimum brightness (fully dimmed) is adjustable **with the % rotary switch.**
In the setting LRN up to 35 wireless pushbuttons can be assigned, of which one or more central pushbuttons.

The dimming speed is adjustable using the **dimming speed rotary switch**. At the same time, the soft ON and soft OFF periods are changed.

In addition to the wireless control input via an internal antenna, this universal dimmer switch can also be controlled locally by a conventional 230V control switch if fitted previously.

From production week 38/2012 **bidirectional wireless** and **repeater function** can be switched on. Every change in state and incoming central command telegrams are then confirmed by a wireless telegram. This wireless telegram can be taught-in in other actuators like the FSR61NP-230V, in the FVS software and in FUA55 universal displays.

The wireless pushbuttons can be taught-in either as direction switches or universal switches:

When installed as a direction switch, one side is then 'switch on and dim up' and the other side is 'switch off and dim down'. A double-click on the switch-on side activates automatic dim-up to full brightness at dim speed. A double click on the switch-off side activates the snooze function. The children's room function is implemented on the switch-on side.

As a universal switch, change the direction by briefly releasing the pushbutton.
Short control commands switch on/off.

Switching operation for children's rooms (universal switch or direction switch on the switch-on side): If the light is switched on by holding down the pushbutton, it starts at the lowest brightness level after approx. 1 second and dims up slowly as long as the pushbutton is held down. The last saved brightness level is not modified.

Snooze function (universal switch or direction switch on the switch-off side): With a double impulse the lighting is dimmed down from the current dimming position to the minimum brightness level and switched off. The current dimming position as well as the adjustable minimum brightness level determine the dimming time (max. = 60 minutes) which can be reduced as required. It can be switched off at any time by short-time control commands during the lighting is dimmed down.

Light scenes on the PC are set and retrieved using the Wireless Visualisation and Control Software FVS. A description of the FVS is in Chapter V. One or several FUD61NP devices must be taught in on the PC as dimming switches with percentage brightness values.

Lights scenes with wireless pushbuttons are taught in on the FUD61NP device.
Up to four brightness values taught in a light scene pushbutton with double rocker.

The LED performs during the teach-in process according to the operation manual.
It shows wireless control commands by short flickering during operation.

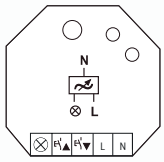
Technical data page **T**-1.

FUD61NP-230V	Wireless actuator Universal dimmer switch without N	EAN 4010312300183	**90,70 €/pc.**

Recommended retail prices excluding VAT.

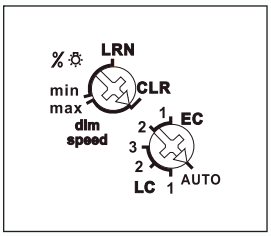
FUD61NPN-230V





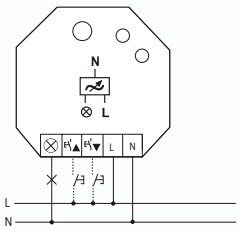
Universal dimmer switch, 300 W power MOSFET. Automatic lamp detection. Only 0.6 watt standby loss. With adjustable minimum brightness or dimming speed. With switching operation for light alarm clocks, children's rooms and snooze function. Additionally with light scene control. Bidirectional wireless and repeater function are switchable.

Function rotary switches



Standard setting ex works.

Typical connection



For installation. 45 mm long, 55 mm wide, 33 mm deep.

Universal dimmer switch for lamps up to 300 W, dependent on ventilation conditions. Dimmable energy saving lamps ESL and dimmable 230 V-LED lamps, additionally dependent on the lamps electronics.

Zero passage switching with soft ON and soft OFF to protect lamps.

Switching voltage and control voltage local 230 V. No minimum load.

This dimmer switch is activated by wireless pushbuttons FT and FFT, handheld wireless transmitters FHS and FMH, and remote controls FF8 and UFB.

The brightness level is stored on switch-off (memory).

In case of a power failure the switch position and the brightness stage are stored and may be switched on when the power supply is restored.

Automatic electronic overload protection and overtemperature switch-off.

From production week 40/2012 **bidirectional wireless** and **repeater** function can be switched on. Every change in state and incoming central command telegrams are then confirmed by a wireless telegram. This wireless telegram can be taught into other actuators like the FSR61NP-230 V, FUA55 universal displays and the FVS-Software. The current dimming value is also displayed in % in the FVS-Software.

The minimum brightness (fully dimmed) or the dimming speed is adjustable **with the upper %☼/dimming speed rotary switch.**

The lower rotary switch determines the operation, whether the automatic lamp detection or special comfort positions should act:

AUTO allows the dimming of all light species.

EC1 is a comfort position for energy saving lamps which must be switched on with increased power dependent on the construction, so they will also switch on again safely in cold condition when dimmed down.

EC2 is a comfort position for energy saving lamps which will not be switched on again when dimmed down dependent on the construction. Memory is switched off in this position.

LC1 is a comfort position for LED lamps which are not being dimmed down enough when set to AUTO (trailing phase angle) dependent on the construction and must therefore be forced to leading phase angle.

LC2 and **LC3** are comfort positions for LED lamps like LC1, but with different dimming curves.

In positions EC1, EC2, LC1, LC2 and LC3 no inductive (wound) transformers should be used. In addition, the maximum number of dimmable LED lamps can be lower than in the AUTO position dependent on the construction.

The pushbuttons can be either taught-in as direction pushbuttons or universal pushbuttons:

As direction button 'switch on and dim up' is on one side and 'switch off and dim down' on the other side. A double-click on the switch on side triggers the automatic dimming up to full brightness with dim speed time. A double-click on the switch off side triggers the snooze function. The children's room function is triggered on the switch on side. **As a universal pushbutton** the direction change is made by briefly releasing the pushbutton.

For light scene control, light alarm circuit, children's room circuit and sleep timer, refer to the operator manual.

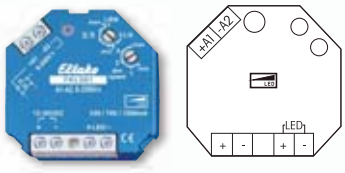
The LED performs during the teach-in process accord ing to the operation manual. It shows wireless control commands by short flickering during operation.

Technical data page **T**-1.

FUD61NPN-230V	Wireless actuator – Universal dimmer switch	EAN 4010312300299	**91,70 €/pc.**

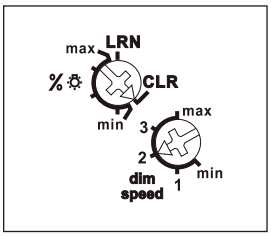
Recommended retail prices excluding VAT.

FKLD61



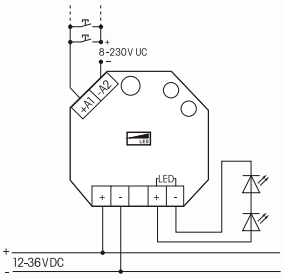
DC constant current source for LEDs up to 1000 mA or 30 watts. Only 0.3 watt standby loss. With adjustable minimum brightness and dimming speed. With switching operation for children's rooms and snooze function. Also with light scene control by PC or wireless pushbuttons. Bidirectional wireless and with repeater function.

Function rotary switches



Standard setting ex works.

Typical connection



For installation. 45 mm long, 55 mm wide, 33 mm deep.

The nominal output current can be set with a jumper on the circuit board: no connection: 350 mA; flush right (Pin 2-3 connected): 700 mA; flush left (Pin 1-2 connected): 1000 mA. Factory settings 700 mA. The input voltage ranges from 12 V DC to 36 V DC maximum. The input voltage must be selected to the sum of the LED at the output voltage, so that the current control can operate. This deviation must be at least 6 volts. The total power output current x output voltage should not exceed 30 watts.

A pulse resistant DC power supply unit is required, which provides the necessary voltage and required current of the LED light(s).

Universal control voltage input 8 to 230 V UC, electrically isolated from the 230 V supply voltage and switching voltage.

The brightness level is stored on switch-off (memory).

In case of a power failure the switch position and the brightness stage are stored and may be switched on when the power supply is restored.

Automatic electronic overload protection and overtemperature switch-off.

Bidirectional wireless and/or a **repeater function** can be switched on.

The minimum brightness (fully dimmed) is adjustable **with the upper % rotary switch.** In the setting LRN up to 35 pushbuttons can be assigned, of which one or more central pushbuttons.

The dimming speed can be adjusted **with the lower dimming speed rotary switch.**

In addition to the wireless control input via an internal antenna, this universal dimmer switch can also be controlled locally by a conventional 230 V control switch if fitted previously. A short interruption of control changes the direction of dimming. Short control commands switch on/off.

The pushbuttons can be either taught-in as direction pushbuttons or universal pushbuttons: As direction pushbutton 'switch on and dim up' is on one side and 'switch off and dim down' on the other side. A double-click on the switch on side triggers the automatic dimming up to full brightness with dim speed time. A double-click on the switch off side triggers the snooze function. The children's room function is triggered on the switch on side. **As a universal pushbutton** the direction change is made by briefly releasing the pushbutton. With switching operation for children's rooms and snooze function.

Central pushbutton 'on' switches on with memory value. **Central pushbutton 'off'** switches off.

Switching operation for children's rooms (universal pushbutton or direction pushbutton on the switch-on side): If the light is switched on by holding down the pushbutton, it starts at the lowest brightness level after approx. 1 second and dims up slowly as long as the pushbutton is held down without modifying the last stored brightness level.

Snooze function (universal pushbutton or direction pushbutton on the switch-off side): With a double impulse the lighting is dimmed down from the current dimming position to the minimum brightness level and switched off. The current dimming position as well as the adjustable minimum brightness level determine the dimming time (max. = 60 minutes) which can be reduced as required. It can be switched off at any time by short-time control commands during the lighting is dimmed down.

Light scenes on the PC are set and retrieved using the Wireless Visualisation and Control Software FVS. A description of the FVS is in chapter V. One or several FKLD61 devices must be taught in on the PC as dimming switches with percentage brightness values.

Lights scenes with wireless pushbuttons are taught in on the FKLD61 device. Up to four brightness values which can be taught-in in light scene pushbuttons with double rocker.

A **FBH** can either be taught-in as a movement detector with/without twilight switch or a **FAH** as a twilight switch according to the operating instructions.

The LED performs during the teach-in process according to the operation manual. It shows control commands by short flickering during operation.

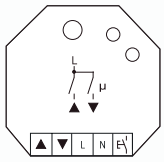
Technical data page **T**-1.

FKLD61	Wireless actuator Constant current LED dimmer switch	EAN 4010312314357	**91,70 €/pc.**

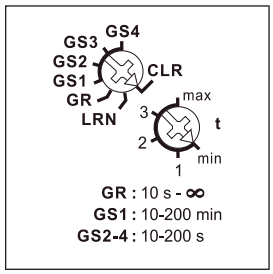
Recommended retail prices excluding VAT.

FSB61NP-230V



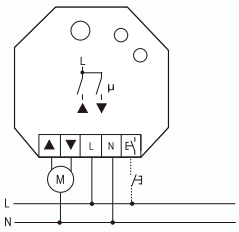


Function rotary switches



Standard setting ex works.

Typical connection



1+1 NO contact not potential free 10 A/250 V AC, for roller blinds and shading systems. Bidirectional wireless and repeater function are switchable. Only 0.7 watt standby loss.

For installation. 45 mm long, 55 mm wide, 33 mm deep.

Switching voltage and control voltage local 230 V.

This wireless actuator features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics and two bistable relays with zero passage switching.

By using a bistable relay coil power loss and heating is avoided even in the on mode. After installation, wait for short automatic synchronisation before the switched consumer is connected to the mains.

In addition to the wireless control input via an internal antenna, this wireless actuator can also be controlled locally by a conventional 230 V control switch previously mounted.

From production week 39/2012 **bidirectional wireless** and **repeater function** can be switched on. Every change in state and incoming central command telegrams are then confirmed by a wireless telegram. This wireless telegram can be taught-in in other actuators, in the FVS software and in FUA55 universal displays.

This wireless telegram can be taught-in in other actuators, in the FVS software and in FUA55 universal displays. **With the top rotary switch** in the setting LRN up to 35 wireless pushbuttons can be assigned, of which one ore more central pushbuttons. The required function of this impulse group switch can then be selected:

GS1 = Group switch with pushbutton control and off delay in seconds. Both a wireless push-button with the function 'Up-Hold-Down-Hold' as well as the local pushbutton can be taught-in or a wireless pushbutton like a roller Venetian blind double pushbutton with pressing above 'Up' and pressing below 'Down'. Tap briefly to interrupt the movement immediately. **Dynamic central control with and without priority can be implemented.**

GS2 = Group switch same as GS1, central switch always without priority.

GS3 = Group switch same as GS2, in addition with double-click **reverse function** for the local pushbutton and a wireless pushbutton as universal switch taught-in appropriately: After double-clicking, the Venetian blind moves in the opposite direction until it is stopped by a brief tap.

GS4 = Group switch same as GS2, in addition with tip reverse function: The control push-button is initially in static mode. The relay is energised as long as the pushbutton is tapped so that the Venetian blind can be reversed in the opposite direction by short impulses.

GR = Group relay. As long as the wireless pushbutton is closed, a contact is closed. Then it reopens. On reception of the next wireless signal the other contact closes, etc.

Shading scene control: Up to 4 saved 'Down' running times are retrievable using the control signal of a pushbutton and double rocker taught-in as a scene button or taught-in by a PC loaded with the FVS software.

If a **wireless outdoor brightness sensor FAH60** is also taught-in in addition to a scene push-button, the taught-in scenes 1, 2 and 4 are executed automatically depending on the outdoor brightness.

Use the bottom rotary switch to set the time delay to the position 'Halt' in seconds. Select a delay time that is at least as long as the shading element or roller shutter needs to move from its end position to the other position.

When a wireless window/door contact FTK or Hoppe window handle is taught-in, a lock-out protection is set up while the door is open and disables a Central Down command.

The LED performs during the teach-in process according to the operation manual.
It shows wireless control commands by short flickering during operation.

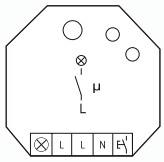
Technical data page **T**-1.

FSB61NP-230V	Wireless actuator for shading elements and roller shutters	EAN 4010312300213	**77,40 €/pc.**

Recommended retail prices excluding VAT.

FTN61NP-230V





1 NO contact not potential free 10 A/250 V AC, incandescent lamps up to 2000 watts, off delay with switch-off early warning and switchable push-button permanent light. Bidirectional wireless and with repeater function. Only 0.7 watt standby loss.

For installation. 45 mm long, 55 mm wide, 33 mm deep.

Switching voltage 230 V.

Zero passage switching to protect contacts and consumers.

This wireless actuator is a staircase off-delay timer and features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics and a bistable relay with zero passage switching.

By using a bistable relay coil power loss and heating is avoided even in the on mode. After installation, wait for short automatic synchronisation before the switched consumer is connected to the mains.

In addition to the wireless control input via an internal antenna, this staircase off-delay timer can also be controlled locally by a conventional 230 V control switch previously mounted.
Glow lamp current up to 5 mA, dependent on the ignition voltage of the glow lamps.

The lighting is switched on again after a power failure provided the set time has not yet elapsed.

Starting in production week 25/2011 with **bidirectional wireless;** in addition, a **repeater** function can be switched in. Every change in state and incoming central command telegrams are confirmed by a wireless telegram. This wireless telegram can be taught-in in other actuators, in the FVS software and in FUA55 universal displays.

With the top rotary switch in the setting LRN up to 35 wireless pushbuttons and/or wireless motion/brightness sensors FBH can be assigned, of which one ore more central pushbuttons. The required function of this staircase off-delay timer can then be selected.

The flashing of the LED as soon as a new setting range has been reached when turning the rotary switch helps to find the desired position reliably.

NLZ = off-delay timer

TLZ = staircase time switch
- + ☼ = TLZ with pushbutton permanent light
- + ⎍ = TLZ with switch-off early warning
- + ⎍☼ = TLZ with pushbutton permanent light and switch-off early warning

If the permanent light function ☼ is switched on, the function can be activated by pressing the pushbutton for longer than 1 second. This function switches off automatically after 60 minutes or by pressing the pushbutton for longer than 2 seconds.

If the switch-off early warning ⎍ is switched on, the light starts to flicker approx. 30 seconds before time-out. This is repeated three times at decreasing time intervals.

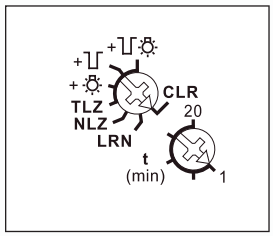
If both switch-off early warning and pushbutton permanent light ⎍☼ are switched on, switch-off early warning is activated before automatic switch-off of the permanent light.

With the bottom rotary switch, the off delay is adjusted from 1 to 20 minutes.

When **motion/brightness sensors FBH** are taught-in, use the last FBH that was taught-in to define the switching threshold at which the lighting is switched on or off depending on the brightness or motion detected. The off delay set on the FTN61NP is prolonged by a setting of 1 minute fixed in the FBH.

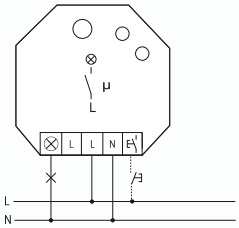
The LED performs during the teach-in process according to the operation manual.
It shows wireless control commands by short flickering during operation.

Function rotary switches



Standard setting ex works.

Typical connection



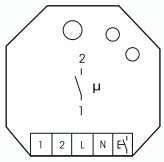
Technical data page **T**-1.

FTN61NP-230V	Wireless actuator Staircase off-delay timer	EAN 4010312300206	**69,30 €/pc.**

Recommended retail prices excluding VAT.

FMZ61-230 V





1 NO contact potential free 10 A/250 V AC, incandescent lamps up to 2000 watts.* Bidirectional wireless and with repeater function. Only 0.6 watt standby loss.

For installation. 45 mm long, 55 mm wide, 33 mm deep.

Supply voltage and if necessary control voltage locally 230 V.

This wireless actuator features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics with a bistable relay.

By using a bistable relay coil power loss and heating is avoided even in the on mode. After installation, wait for short automatic synchronisation before the switched consumer is connected to the mains.

In addition to the wireless control input via an internal antenna, this wireless actuator can also be controlled locally by a conventional control switch if fitted previously. Glow lamp current is not permitted.

Starting in production week 18/2011 with **bidirectional wireless;** in addition, a **repeater** function can be switched in. Every change in state and incoming central command telegrams are confirmed by a wireless telegram. This wireless telegram can be taught-in in other actuators, in the FVS software and in FUA55 universal displays.

With the top rotary switch in the setting LRN up to 35 wireless pushbuttons can be assigned, of which one or more central control pushbuttons. In addition, wireless window/door contacts (FTK) may have a NO or NC function when the window is open. If a direction switch is taught-in, a function (e.g. TI) can be started using the top switch (START) and stopped with the bottom switch (STOP). The required function can then be selected. Switching will be visualised by flashing of the LED.

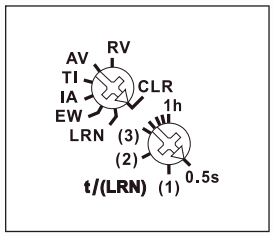
RV = off delay
AV = operating delay
TI = clock generator starting with impulse
IA = impulse-controlled operating delay
EW = fleeting NO contact

The bottom rotary switch sets the time from 0.5 seconds to 60 minutes.

The LED performs during the teach-in process according to the operation manual. It shows wireless control commands by short flickering during operation.

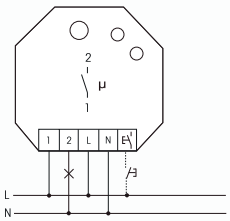
* The maximum load can be used from a delay time or clock cycle of 5 minutes. The maximum load is reduced for shorter times as follows: up to 2 minutes 30 %, up to 5 minutes 60 %.

Function rotary switches



Standard setting ex works.

Typical connection



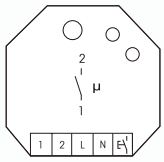
Technical data page **T**-1.

FMZ61-230V	Wireless actuator Multifunction time relay	EAN 4010312302293	**73,30 €/pc.**

Recommended retail prices excluding VAT.

FHK61-230V





1 NO contact potential free 10A/250V AC. Only 0.6 watt standby loss. Bidirectional wireless and repeater function are switchable.

For installation. 45mm long, 55mm wide, 33mm deep.
Supply voltage 230V.

This wireless actuator features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics with a bistable relay.

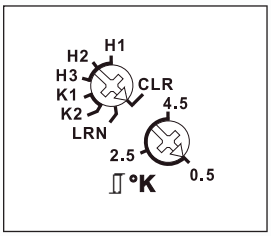
By using a bistable relay coil power loss and heating is avoided even in the on mode.
After installation, wait for short automatic synchronisation before the switched consumer is connected to the mains.

This heating/cooling relay evaluates the information from wireless temperature controllers or sensors. Possibly supplemented by window/door contacts, motion detector, Hoppe window handles and wireless pushbuttons.

Valves will be controlled with the potential-free contact.

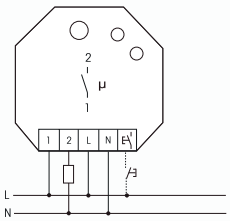
From production week 02/2013 **bidirectional wireless** and **repeater function** can be switched on. Each function change by a wireless temperature controller (normal mode, setback, off) is confirmed by a wireless telegram. This wireless telegram can be taught-in into the GFVS software.

Function rotary switches



Standard setting ex works.

Typical connection



Left rotary switch for operating modes:

H1: Heating operation with PWM control at T = 4 minutes (PWM = pulse width modulation). (suitable for valves with thermoelectric valve drive)

H2: Heating operation with PWM control at T = 15 minutes.
(suitable for valves with motor-driven valve drive)

H3: Operating mode with 2-point control.

K1: Cooling operation with PWM control at T = 15 minutes.

K2: Cooling mode with 2-point control.

Switchover is visualised by LEDs flashing.

Right rotary switch for adjustable hysteresis and PWM influence:
Left stop: lowest hysteresis 0.5°. **Middle position:** hysteresis 2.5°. **Right stop:** largest hysteresis 4.5°. Inbetween, divisions in steps of 0.5° visualised by LEDs flashing.

Two-point control mode: The hysteresis rotary switch sets the required difference between the switch-on and switch-off temperatures.
When the 'actual temperature >= reference temperature', the device is switched off.
When the 'actual temperature <= (reference temperature – hysteresis)', the device is switched on.
The signs are the opposite in cooling mode.

PWM control mode: The hysteresis rotary switch set the required temperature difference at which the device is switched on at 100%. When the 'actual temperature >= reference temperature', the device is switched off.
When the 'actual temperature <= (reference temperature – hysteresis)', the device is switched on at 100%. If the 'actual temperature' lies between the 'reference temperature – hysteresis' and the 'reference temperature', the device is switched on and off with a PWM in steps of 10% depending on the temperature difference. The lower the temperature difference, the shorter the switch-on time. As a result of the settability of the 100% value, the PWM can be adapted to the heater size and inertia. The signs are the opposite in cooling mode.

In heating mode, the frost protection function is always enabled. As soon as the actual temperature drops below 8°C, the temperature is controlled in the selected operating mode to 8°C.

If one or several windows are open, the output remains off **provided the window/door contacts FTK or Hoppe window handles** are taught-in. In heating mode, however, the frost protection remains enabled.

As long as all taught-in **motion detectors FBH** detect no motion, the device is switched to setback mode. In heating mode, the reference temperature is set back by 2°; in cooling mode, it is raised by 2°. As soon as a motion detector signals movement again, the device is switched to normal mode.

When a **wireless pushbutton FT4** is taught-in, the assignment of the 4 keys is assigned with the following fixed functions:
Top right: Normal mode (can also be enabled by timer). Bottom right: Night setback mode by 4°; in cooling mode, raised by 4° (can also be enabled by timer). Top left: Setback mode by 2°, in cooling mode, raised by 2°. Bottom left: Off (in heating mode, frost protection enabled; in cooling mode permanent off). If the motion detector and wireless pushbutton are taught-in at the same time, the last telegram received is always the one that is valid. A motion detector therefore switches off a setback mode selected by wireless pushbutton when a movement is detected.

The LED performs during the teach-in process according to the operation manual. It shows wireless control commands by short flickering during operation.

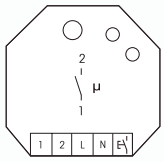
Technical data page **T**-1.

FHK61-230V	Wireless actuator – Heating/cooling relay	EAN 4010312302309	**70,50 €/pc.**

Recommended retail prices excluding VAT.

FHK61U-230V





1 NO contact potential free 10A/250V AC. Only 0.6 watt standby loss. Bidirectional wireless and repeater function are switchable.

For installation. 45mm long, 55mm wide, 33mm deep.
Supply voltage 230V.

This wireless actuator features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics with a bistable relay.

By using a bistable relay coil power loss and heating is avoided even in the on mode.
After installation, wait for short automatic synchronisation before the switched consumer is connected to the mains.

This heating/cooling relay evaluates the information from wireless temperature controllers or sensors. Possibly supplemented by window/door contacts, motion detector, Hoppe window handles and wireless pushbuttons.

Bidirectional wireless and/or a **repeater function** can be switched on. Every change in state is confirmed by a wireless telegram. Every change in state of the contact is confirmed by a wireless telegram. This wireless telegramc an be taught-in into other actuators and the GFVS software. Especially into a FSR61 to synchronously switch a heat circulating pump with the valves.

Left rotary switch for operating modes:

H1: Heating operation with PWM control at T = 4 minutes (PWM = pulse width modulation). (suitable for valves with thermoelectric valve drive)

H2: Heating operation with PWM control at T = 15 minutes.
(suitable for valves with motor-driven valve drive)

H3: Operating mode with 2-point control.

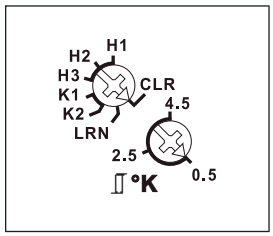
K1: Cooling operation with PWM control at T = 15 minutes.

K2: Cooling mode with 2-point control.

Switchover is visualised by LEDs flashing.

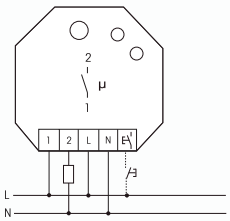
Right rotary switch for adjustable hysteresis and PWM influence:
Left stop: lowest hysteresis 0.5°. **Middle position:** hysteresis 2.5°. **Right stop:** largest hysteresis 4.5°. Inbetween, divisions in steps of 0.5° visualised by LEDs flashing.

Function rotary switches



Standard setting ex works.

Typical connection



Two-point control mode: The hysteresis rotary switch sets the required difference between the switch-on and switch-off temperatures.
When the 'actual temperature >= reference temperature', the device is switched off.
When the 'actual temperature <= (reference temperature – hysteresis)', the device is switched on.
The signs are the opposite in cooling mode.

PWM control mode: The hysteresis rotary switch set the required temperature difference at which the device is switched on at 100%. When the 'actual temperature >= reference temperature', the device is switched off.
When the 'actual temperature <= (reference temperature – hysteresis)', the device is switched on at 100%. If the 'actual temperature' lies between the 'reference temperature – hysteresis' and the 'reference temperature', the device is switched on and off with a PWM in steps of 10% depending on the temperature difference. The lower the temperature difference, the shorter the switch-on time. As a result of the settability of the 100% value, the PWM can be adapted to the heater size and inertia. The signs are the opposite in cooling mode.

In heating mode, the frost protection function is always enabled. As soon as the actual temperature drops below 8°C, the temperature is controlled in the selected operating mode to 8°C.

If one or several windows are open, the output remains off **provided the window/door contacts FTK or Hoppe window handles** are taught-in. In heating mode, however, the frost protection remains enabled.

As long as all taught-in **motion detectors FBH** detect no motion, the device is switched to setback mode. In heating mode, the reference temperature is set back by 2°; in cooling mode, it is raised by 2°. As soon as a motion detector signals movement again, the device is switched to normal mode.

When a **wireless pushbutton FT4** is taught-in, the assignment of the 4 keys is assigned with the following fixed functions:
Top right: Normal mode (can also be enabled by timer). Bottom right: Night setback mode by 4°; in cooling mode, raised by 4° (can also be enabled by timer). Top left: Setback mode by 2°, in cooling mode, raised by 2°. Bottom left: Off (in heating mode, frost protection enabled; in cooling mode permanent off). If the motion detector and wireless pushbutton are taught-in at the same time, the last telegram received is always the one that is valid. A motion detector therefore switches off a setback mode selected by wireless pushbutton when a movement is detected.

The LED performs during the teach-in process according to the operation manual. It shows wireless control commands by short flickering during operation.

March 2013.

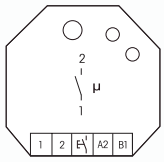
Technical data page **T**-1.

FHK61U-230V	Wireless actuator – Heating/cooling relay	EAN 4010312315118	**70,50 €/pc.**

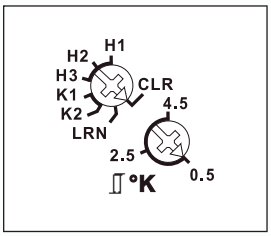
Recommended retail prices excluding VAT.

FHK61/8-24 V UC



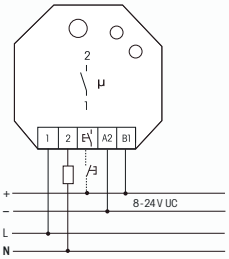


Function rotary switches



Standard setting ex works.

Typical connection



1 NO contact potential free 10 A/250 V AC. Only 0.3 - 0.8 watt standby loss. Bidirectional wireless and with repeater function.

For installation. 45 mm long, 55 mm wide, 33 mm deep.
Supply voltage 8 to 24 V UC.

This wireless actuator features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics with a bistable relay.

By using a bistable relay coil power loss and heating is avoided even in the on mode. After installation, wait for short automatic synchronisation before the switched consumer is connected to the mains.

This heating/cooling relay evaluates the information from wireless temperature controllers or sensors. Possibly supplemented by window/door contacts, motion detector, Hoppe window handles and wireless pushbuttons.

Starting in production week 25/2011 with **bidirectional wireless;** in addition, a **repeater** function can be switched in. Every change in state is confirmed by a wireless telegram. This wireless telegram can be taught-in in other actuators, in the FVS software and in FUA55 universal displays.

Left rotary switch for operating modes:

H1: Heating operation with PWM control at T = 4 minutes. (suitable for valves with thermoelectric valve drive)

H2: Heating operation with PWM control at T = 15 minutes. (suitable for valves with motor-driven valve drive)

H3: Heating operation with 2-point control.

K1: Cooling operation with PWM control at T = 15 minutes.

K2: Cooling mode with 2-point control.

Switchover is visualised by LEDs flashing.

Right rotary switch for adjustable hysteresis and PWM influence:
Left stop: lowest hysteresis 0.5°. **Middle position:** hysteresis 2.5°.
Right stop: largest hysteresis 4.5°.
Inbetween, divisions in steps of 0.5° visualised by LEDs flashing.

Two-point control mode: The hysteresis rotary switch sets the required difference between the switch-on and switch-off temperatures. When the 'actual temperature >= reference temperature', the device is switched off. When the 'actual temperature <= (reference temperature – hysteresis)', the device is switched on. The signs are the opposite in cooling mode.

PWM control mode: The hysteresis rotary switch set the required temperature difference at which the device is switched on at 100%. When the 'actual temperature >= reference temperature', the device is switched off.
When the 'actual temperature <= (reference temperature – hysteresis)', the device is switched on at 100%. If the 'actual temperature' lies between the 'reference temperature – hysteresis' and the 'reference temperature', the device is switched on and off with a PWM in steps of 10% depending on the temperature difference. The lower the temperature difference, the shorter the switch-on time. As a result of the settability of the 100% value, the PWM can be adapted to the heater size and inertia. The signs are the opposite in cooling mode.

In heating mode, the frost protection function is always enabled. As soon as the actual temperature drops below 8°C, the temperature is controlled in the selected operating mode to 8°C.

If one or several windows are open, the output remains off **provided the window/door contacts FTK or Hoppe window handles** are taught-in. In heating mode, however, the frost protection remains enabled.

As long as all taught-in **motion detectors FBH** detect no motion, the device is switched to setback mode. In heating mode, the reference temperature is set back by 2°; in cooling mode, it is raised by 2°. As soon as a motion detector signals movement again, the device is switched to normal mode.

When a **wireless pushbutton FT4** is taught-in, the assignment of the 4 keys is assigned with the following fixed functions: Top right: Normal mode (can also be enabled by timer). Bottom right: Night setback mode by 4°; in cooling mode, raised by 4° (can also be enabled by timer). Top left: Setback mode by 2°, in cooling mode, raised by 2°. Bottom left: Off (in heating mode, frost protection enabled; in cooling mode permanent off). If the motion detector and wireless pushbutton are taught-in at the same time, the last telegram received is always the one that is valid. A motion detector therefore switches off a setback mode selected by wireless pushbutton when a movement is detected.

The LED performs during the teach-in process according to the operation manual. It shows wireless control commands by short flickering during operation.

Technical data page **T**-1.

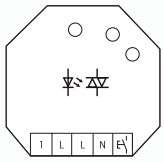
FHK61/8-24V UC	Wireless actuator – Heating/cooling relay	EAN 4010312302316	**70,50 €/pc.**

Recommended retail prices excluding VAT.

Wireless Actuator – Heating/Cooling Relay with Solid State Relay FHK61SSR

FHK61SSR-230V





Noiseless single room control, 400W. Solid state relay not potential free. Only 0.7 watt standby loss. Bidirectional wireless and repeater function are switchable.

For installation. 45mm long, 55mm wide, 33mm deep.
Local switching and control voltage 230V.

This wireless actuator features state-of-the-art hybrid technology that we developed: We have combined the wear-free receive and evaluation electronics with a solid state relay which switches in the zero crossing.

This heating/cooling relay evaluates the information from wireless temperature controllers or sensors. As required, supplemented by window/door contacts, motion detectors, Hoppe window handles and wireless pushbuttons.

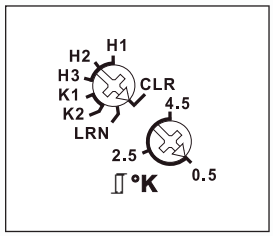
Bidirectional wireless and **repeater** function can be switched on. Every change of function using a wireless pushbutton is confirmed by a wireless telegram. This wireless telegram can be taught-in in the GFVS software.

Top rotary switch for operating modes:
H1: Heating operation with PWM control at T = 4 minutes.
(suitable for valves with thermoelectric valve drive)
H2: Heating operation with PWM control at T = 15 minutes.
(suitable for valves with motor-driven valve drive)
H3: Heating operation with 2-point control.
K1: Cooling operation with PWM control at T = 15 minutes.
K2: Cooling mode with 2-point control.
Switchover is visualised by LEDs flashing.

Bottom rotary switch for adjustable hysteresis and PWM influence:
Left stop: lowest hysteresis 0.5°. **Middle position:** hysteresis 2.5°. **Right stop:** largest hysteresis 4.5°. Inbetween, divisions in steps of 0.5° visualised by LEDs flashing.

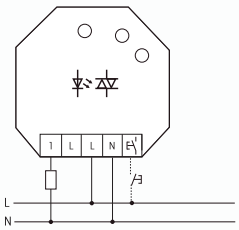
Two-point control mode: The hysteresis rotary switch sets the required difference between the switch-on and switch-off temperatures. When the 'actual temperature >= reference temperature', the device is switched off. When the 'actual temperature <= (reference temperature - hysteresis)', the device is switched on. The signs are the opposite in cooling mode.

Function rotary switches



Standard setting ex works.

Typical connection



PWM control mode: The hysteresis rotary switch set the required temperature difference at which the device is switched on at 100%. When the 'actual temperature >= reference temperature', the device is switched off.
When the 'actual temperature <= (reference temperature - hysteresis)', the device is switched on at 100%.
If the 'actual temperature' lies between the 'reference temperature - hysteresis' and the 'reference temperature', the device is switched on and off with a PWM in steps of 10% depending on the temperature difference.

The lower the temperature difference, the shorter the switch-on time. As a result of the settability of the 100% value, the PWM can be adapted to the heater size and inertia. The signs are the opposite in cooling mode.

In heating mode, the **frost protection function** is always enabled. As soon as the actual temperature drops below 8°C, the temperature is controlled in the selected operating mode to 8°C.

If one or several windows are open, the output remains off **provided the window/door contacts FTK or Hoppe handles are taught-in.** In heating mode, however, the frost protection remains enabled.

As long as all taught-in **motion detectors FBH** detect no motion, the device is switched to setback mode. In heating mode, the reference temperature is set back by 2°; in cooling mode, it is raised by 2°. As soon as a motion detector signals movement again, the device is switched to normal mode.

When a **wireless pushbutton** is taught-in, the assignment of the 4 keys is assigned with the following fixed functions: Top right: Normal mode (can also be enabled by timer). Bottom right: Night setback mode by 4°; in cooling mode, raised by 4° (can also be enabled by timer). Top left: Setback mode by 2°, in cooling mode, raised by 2°. Bottom left: Off (in heating mode, frost protection enabled; in cooling mode permanent off). If the motion detector and wireless pushbutton are taught-in at the same time, the last telegram received is always the one that is valid. A motion detector therefore switches off a setback mode selected by wireless pushbutton when a movement is detected.

When bidirectional wireless is switched on, the FHK61 sends a confirmation telegram containing its own ID and current operating mode to the Eltako wireless network.

PWM setpoint function: When a PWM data telegram is taught-in, the control function selected at the rotary switch is switched off. Only PWM commands are executed. When bidirectional wireless is switched on, the FHK61 sends a received PWM data telegram as confirmation telegram containing its own ID to the Eltako wireless network.

The 230V control input acts as a dew signalling input. When a voltage of 230V is applied, the solid state relay is switched off. Every change in state of the control input is immediately sent as a button telegram cyclically every 15 minutes.

The LED performs during the teach-in process according to the operation manual. It shows wireless control commands by short flickering during operation.

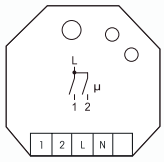
Technical data page **T**-1.

FHK61SSR-230V	Wireless actuator – Heating/cooling relay	EAN 4010312314906	**76,90 €/pc.**

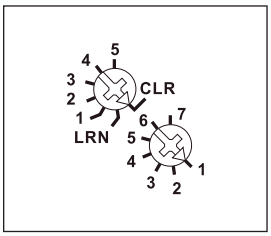
Recommended retail prices excluding VAT.

F2L61NP-230V



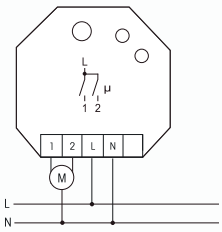


Function rotary switches



Standard setting ex works.

Typical connection



2-speed fan actuator 1+1 NO contacts not potential free 10 A/250 V AC. Only 0.9 watt standby loss. Activates passive and active sensors.

For installation. 45 mm long, 55 mm wide, 33 mm deep.

Supply voltage and switching voltage 230 V.

This wireless actuator features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics and two bistable relays with zero passage switching.

By using a bistable relay coil power loss and heating is avoided even in the on mode. An automatic short synchronisation takes place after installation.

Maximum current as the sum of both contacts 16 A at 230 V.

When the two contacts are switched in parallel, the 2-speed actuator for 2 fan speeds becomes an actuator for one fan.

The top rotary switch must be set to position LRN for teach-in.

The bottom rotary switch selects the later function in operation during teach-in. Up to 34 passive sensors are taught-in, e.g. wireless pushbuttons, window/door contacts, Hoppe window handles or wireless transmitter modules. A single active sensor for CO_2, humidity or temperature can be taught-in additionally or individually.

A wireless switch with double rocker is taught-in in rotary switch position 1 if the 2 contacts are supposed to remain individually closed in the two speeds (exclusive), or in position 7 if contact 2 is supposed to cut in for Speed 2 (accumulative). The double rockers are programmed automatically as follows: top left Speed 1, top right Speed 2. Bottom left and bottom right OFF: the two contacts open. If the two contacts are switched in parallel, it is sufficient to have one wireless switch with 1 rocker. Here, top is ON and bottom is OFF.

In rotary switch position 4, all passive sensors can be taught-in as circuit-breakers. The active sensors are assigned as follows:
CO_2 sensor exclusive = position 2, CO_2 sensor accumulative = position 5;
humidity sensor exclusive = position 3, humidity sensor accumulative = position 6;
temperature sensors exclusive = position 4, temperature sensors accumulative = position 7.
Only one sensor can be taught-in.

When operated with an active sensor, use the bottom rotary switch to set the switch-on threshold. When the threshold is reached, stage 1 is switched on. Use the top rotary switch to set the addition value at which Contact 2 closes.

Overview of switch-on thresholds (lower rotary switch):

CO_2 (ppm): 1 = 800 ppm; 2 = 1000 ppm; 3 = 1200 ppm; 4 = 1400 ppm; 5 = 1600 ppm; 6 = 1800 ppm and 7 = 2000 ppm.

Humidity (%): 1 = 10 %, 2 = 25 %, 3 = 40 %, 4 = 55 %, 5 = 70 %, 6 = 85 % and 7 = 100 %.

Temperature (°C): 1 = 20 °C, 2 = 23 °C, 3 = 26 °C, 4 = 29 °C, 5 = 32 °C, 6 = 35 °C and 7 = 38 °C.

Overview of addition values (upper rotary switch):

CO_2 difference: 1 = 50 ppm, 2 = 100 ppm, 3 = 200 ppm, 4 = 300 ppm and 5 = 500 ppm. Fixed hysteresis: 50 ppm.

Humidity difference: 1 = 5 %, 2 = 15 %, 3 = 25 %, 4 = 35 % and 5 = 45 %. Fixed hysteresis: 5%.

Temperature difference (K): 1 = 1 K, 2 = 2 K, 3 = 4 K, 4 = 7 K and 5 = 10 K. Fixed hysteresis: 1 K.

The LED performs during the teach-in process according to the operation manual. It shows control commands by short flickering during operation.

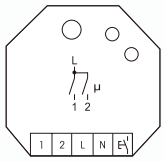
Technical data page **T**-1.

F2L61NP-230V	Wireless actuator Fan relay	EAN 4010312305027	**80,60 €/pc.**

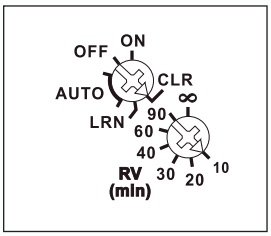
Recommended retail prices excluding VAT.

FFR61-230V



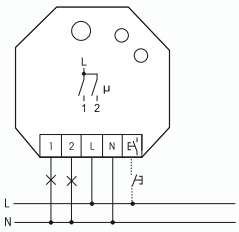


Function rotary switches



Standard setting ex works.

Typical connection



1+1 NO contacts not potential free 10 A/250 V AC, incandescent lamps up to 2000 watts. Only 0.7 watt standby loss. Bidirectional wireless and with repeater function.

For installation. 45 mm long, 55 mm wide, 33 mm deep.

Supply voltage and switching voltage 230 V.

This wireless actuator features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics and two bistable relays with zero passage switching.

By using a bistable relay coil power loss and heating is avoided even in the on mode. An automatic short synchronisation takes place after installation.

The mains disconnection relay FFR61-230 V interrupts the power supply of 1 or 2 circuits and this prevents interfering electromagnetic fields.

Maximum current as the sum of both contacts 16 A at 230 V.

Starting in production week 31/2011 with **bidirectional wireless;** in addition, a **repeater** function can be switched in. Every status change and incoming central control telegrams are confirmed by a wireless telegram. This wireless telegram can be taught-in in other actuators, in the FVS software and in FUA55 universal displays.

This mains disconnection relay is fitted in the circuit distributor which branch off to max two 16 A protected circuits in the room to be protected by mains disconnection. For example, one circuit for the lighting and one circuit for the socket outlets.

The circuits are enabled and disabled manually using one or several stationary wireless push-buttons or hand-held wireless transmitters. Contact L-2 can store a switch-off delay of 10 to 90 minutes.

If a wireless pushbutton rocker is assigned to 'central ON' for the mains disconnection relay and to 'ON' for the lighting, the mains disconnection relay is automatically cancelled when the lighting is switched on.

If a wireless pushbutton rocker, e.g. a bedside light, is assigned with 'OFF' for the lamp and 'central OFF' for the mains disconnection relay, the mains disconnection is automatically activated when the bedside lamp is switched off.

7 teach-in positions of the FFR61 plus the switch-off delay gives the user plenty of scope to define the settings for the mains disconnection relay.

The LED performs during the teach-in process according to the operation manual. It shows wireless control commands by short flickering during operation.

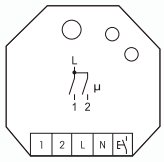
Technical data page **T**-1.

FFR61-230V	Wireless actuator Mains disconnection relay	EAN 4010312303221	**77,30 €/pc.**

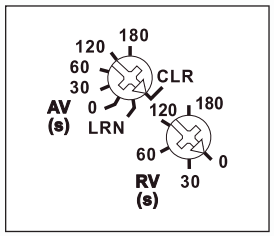
Recommended retail prices excluding VAT.

FZK61NP-230V



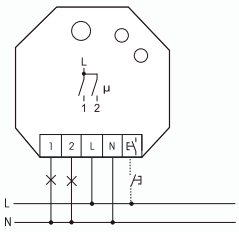


Function rotary switches



Standard setting ex works.

Typical connection



1+1 NO contacts not potential free 10A/250V AC, incandescent lamps 2000 watts. Only 0.7 watt standby loss. Off-delay and response lag are adjustable for one contact. Bidirectional wireless and with repeater function.

For installation.
45mm long, 55mm wide, 33mm deep.

Supply voltage and switching voltage 230V.

This wireless actuator features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics and two bistable relays with zero passage switching.

By using a bistable relay coil power loss and heating is avoided even in the on mode.
An automatic short synchronisation takes place after installation.

Maximum current as the sum of both contacts 16A at 230V.

Starting in production week 27/2011 with **bidirectional wireless;** in addition, a **repeater** function can be switched in. Every status change and incoming central control telegrams are confirmed by a wireless telegram. This wireless telegram can be taught-in in other actuators, in the FVS software and in FUA55 universal displays

The upper rotary switch AV is required for teach-in. Then set here the response lag time AV between 0 and 180 seconds for Contact L-2.

Use **the bottom rotary switch RV** to set the time delay time RV between 0 and 180 seconds for Contact L-2.

The AV and RV times permit the simple control of air conditioning systems with the wireless card switches FKF and FKC.

The response lag AV starts as soon as the hotel card/key card is inserted in the wireless card switch FKF and the time delay RV starts after the card is removed.

In addition to the wireless card switch FKF, wireless window/door contacts FTK, Hoppe window handles and motion/brightness sensor FBH can also be taught in.

Opening a monitored window also starts the RV time. When the RV time expires, Contact L-2 opens. Closing all monitored windows starts the AV time. When the AV time expires, Contact L-2 closes.

Contact L-1 is provided for light switching and always switches immediately without AV/RV.
To increase the switching capacity for one channel, outputs 1 and 2 can be bridged, provided no air conditioning control is required. Then AV and RV must be set to 0.

When motion detectors are taught in, the two channels switch on immediately motion is detected. If no motion is detected for 15 minutes, the two channels are switched off.

Several wireless smoke alarms FRW-ws are logically linked with this switch actuator time relay so that the RV time only starts after all FRW-ws devices have signalled alarm end.

Card switches and smoke alarms can not be operated together with an FZK device.

The LED performs during the teach-in process according to the operation manual.
It shows wireless control commands by short flickering during operation.

Technical data page **T**-1.

FZK61NP-230V	Wireless actuator Time relay for card switch	EAN 4010312304273	**72,90 €/pc.**

Recommended retail prices excluding VAT.

FSR70S-230V

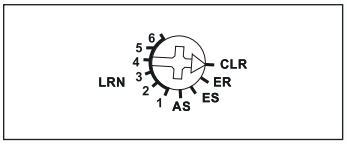




FSR70S-230V-an

5-22

Function rotary switch on the side



Standard setting ex works.

1 NO contact not potential free 10A/250V AC, incandescent lamps up to 2000 watts, energy saving lamps ESL up to 200W.
Only 0.8 watt standby loss.

Installation in the 230V power supply cord of standard lamps and bedside lights.
100mm long, 50mm wide and 25mm deep.

Supplied colours: pure white, black and anthracite.

This wireless actuator is an impulse switch with integrated relay function and features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics and a bistable relay with zero passage switching.

By using a bistable relay coil power loss and heating is avoided even in the on mode.

With the rotary switch on the side in the settings LRN up to 35 wireless pushbuttons can be assigned, of which one or more central control pushbuttons. In addition, wireless motion/brightness sensor FBH and/or a wireless outside brightness sensor FAH for a presence simulation. The required function of the impulse switch with integrated relay function can then be selected:

ES = Impulse switch

After the FBH is taught-in, the device switches on when movement is detected and, after an additional FAH is taught-in, at twilight and when movement is detected.

If no movement is detected, the contact opens after a 4 minute delay. A wireless switch can only be taught-in additionally to activate or deactivate presence simulation.

ER = Switching relay

When FAH is taught-in, the device switches on at twilight.
The contact opens after a 4 minute delay when brightness is detected.

AS = Presence simulation

The AS starts with a random pause time of 20 to 40 minutes followed by a random switch-on time of 30 to 120 minutes.

When the rotary switch is turned to AS or when the line voltage is switched on in AS position, the light switches on for 5 seconds after 1 second.

When the FAH is taught-in, the AS only starts when twilight commences.

After the FAH detects brightness, the AS ends after 4 minutes.

The LED on the side below the left rotary switch accompanies the teach-in process as described in the operation manual. It indicates control commands by short flickering during operation.

Technical data page **T**-1.

FSR70S-230V-rw	Impulse switch with integr. relay function pure white	EAN 4010312301487	**70,30 €/pc.**
FSR70S-230V-sz	Impulse switch with integr. relay function black	EAN 4010312301494	**70,30 €/pc.**
FSR70S-230V-an	Impulse switch with integr. relay function anthracite	EAN 4010312301500	**70,30 €/pc.**

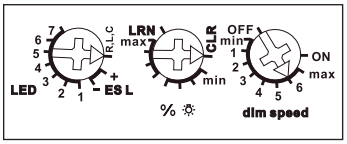
Recommended retail prices excluding VAT.

FUD70S-230V



FUD70S-230V-rw

Function rotary switches on the side



Standard setting ex works.

Universal dimmer switch, power MOSFET up to 400W. Automatic lamp detection. Only 0.6 watt standby loss. With adjustable minimum brightness or maximum brightness and dimming speed. With switching operation for light alarm clocks, children's rooms and snooze function. Also with light scene control by PC or wireless pushbuttons.

Mounting in the 230V power supply cord of standard lamps and bedside lights.
100mm long, 50mm wide and 25mm deep.
Supplied colours: pure white, black and anthracite.
Universal dimmer switch for lamps up to 400W, dependent on ventilation conditions. Dimmable energy saving lamps ESL and dimmable 230V-LED lamps, additionally dependent on the lamps electronics.
Zero passage switching with soft ON and soft OFF to protect lamps.
The brightness level is stored on switch-off (memory). In case of a power failure the switch position and the brightness stage are stored and may be switched on when the power supply is restored. Automatic electronic overload protection and overtemperature switch-off.
The left rotary switch on the side is first required for teach-in and in operation, it defines what load type the dimming curve should be set to:
Position R, L, C (automatic mode) allows the dimming of all lamp types.
+ESL is a comfort position for energy saving lamps which must be switched on with increased power dependent on the construction, so they will also switch on again safely in cold condition when dimmed down.
-ESL is a comfort position for energy saving lamps which will not be switched on again when dimmed down dependent on the construction. Memory is switched off in this position.
LED1 is a comfort position for LED lamps which are not being dimmed down enough when set to R, L, C (trailing phase angle) dependent on the construction and must therefore be forced to leading phase angle.
LED2 and **LED3** are comfort positions for LED lamps like LED1, but with different dimming curves. In positions +ESL, -ESL, LED1, LED2 and LED3 no inductive (wound) transformers should be used. In addition, the maximum number of dimmable LED lamps can be lower than in the R, L, C position dependent on the construction.
The minimum brightness (fully dimmed down) or maximum brightness (fully dimmed up) is adjustable with **the middle %☼ rotary switch.** In the setting LRN up to 30 pushbuttons can be assigned, of which one or more central pushbuttons.
The dimming speed is adjustable using **the right dimming speed rotary switch** on the side. At the same time, the soft ON and soft OFF periods are changed.
The pushbuttons can be taught-in either as direction pushbuttons or universal pushbuttons:
When installed as a direction pushbutton, one side is then 'switch on and dim up' and the other side is 'switch off and dim down'. A double-click on the switch-on side activates automatic dim-up to full brightness at dim speed. A double click on the switch-off side activates the snooze function. The children's room function is implemented on the switch-on side. **As a universal pushbutton,** change the direction by briefly releasing the pushbutton. With switching operation for children's rooms and snooze function.
Switching for light alarm clocks: A wireless signal of a time clock which was taught-in accordingly starts the wake up function by switching on the light at the lowest brightness level and dims up slowly until the maximum level is reached. Dependent on the set dim speed the wake up time is between 30 and 60 minutes. The dimming process is stopped by tapping briefly, e.g. on the hand-held transmitter. At setting ESL the switching for light alarm clocks is not possible.
Switching operation for children's rooms (universal pushbutton or direction pushbutton on the switch-on side): If the light is switched on by holding down the pushbutton, it starts at the lowest brightness level after approx. 1 second and dims up slowly as long as the pushbutton is held down. The last saved brightness level is not modified.
Snooze function (universal pushbutton or direction pushbutton on the switch-off side): With a double impulse the lighting is dimmed down from the current dimming position to the minimum brightness level and switched off. The current dimming position as well as the adjustable minimum brightness level determine the dimming time (max. = 60 minutes) which can be reduced as required. It can be switched off at any time by short-time control commands during the lighting is dimmed down.
Light scenes on the PC are set and retrieved using the Wireless Building Visualisation and Control Software GFVS. A description of the FVS is in Chapter V. One or several FUD70S devices must be taught in on the PC as dimming switches with percentage brightness values.
Lights scenes with wireless pushbuttons are taught-in on the FUD. Up to four brightness values are retrievable using a direct light scene pushbutton (pushbutton with double rocker, top left = light scene 1, top right = light scene 2, bottom left = light scene 3 and bottom right = light scene 4) and/ or using a sequential light scene pushbutton (pushbutton or one half of a double pushbutton, press top = next light scene, press bottom = previous light scene).
The LED on the side behind the left rotary switch performs during the teach-in process according to the operation manual. It shows wireless control commands by short flickering during operation.

Technical data page **T**-1.

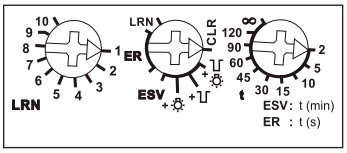
FUD70S-230V-rw	Universal dimmer switch pure white	EAN 4010312301395	**88,30 €/pc.**
FUD70S-230V-sz	Universal dimmer switch black	EAN 4010312301401	**88,30 €/pc.**
FUD70S-230V-an	Universal dimmer switch anthracite	EAN 4010312301418	**88,30 €/pc.**

Recommended retail prices excluding VAT.

FSR70-230V



Function rotary switches on the side



Standard setting ex works.

1 NO contact not potential free 10 A/250 V AC, incandescent lamps up to 2000 watts. Off delay with switch-off early warning and switchable push-button permanent light. Bidirectional wireless and with repeater function. Only 0.6 watt standby loss.

Mounting in the 230 V power supply cord, e.g. in false ceilings.
100 mm long, 50 mm wide and 31 mm deep.

This wireless actuator is an impulse switch with integrated relay function and features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics and a bistable relay with zero passage switching.

By using a bistable relay coil power loss and heating is avoided even in the on mode.

Starting in production week 15/2012 with **bidirectional wireless;** in addition, a **repeater** function can be switched in. Every change in state and incoming central command telegrams are confirmed by a wireless telegram. This wireless telegram can be taught-in in other actuators, in the FVS software and in FUA55 universal displays.

Scene control: several FSR70s can be switched on or off in a scene by one of the four control signals of a double-rocker pushbutton taught-in as scene pushbutton.

With the middle rotary switch on the side in the setting LRN up to 35 wireless pushbuttons can be assigned, of which one or more central control pushbuttons. In addition wireless window/door contacts with the function N/O contact or N/C contact while the window is open. The required function of the impulse switch with integrated relay function can then be selected:

ER = switching relay

ESV = impulse switch. Possibly with off delay, then:
+ ☼ = ESV with pushbutton permanent light
+ ⎍ = ESV with switch-off early warning
+ ⎍☼ = ESV with pushbutton permanent light and switch-off early warning

If the permanent light function ☼ is switched on, the function can be activated by pressing the pushbutton for longer than 1 second. This function switches off automatically after 2 hours or by pressing the pushbutton.

If the switch-off early warning ⎍ is switched on, the light starts to flicker approx. 30 seconds before time-out. This is repeated three times at decreasing time intervals.

If both switch-off early warning and pushbutton permanent light ⎍☼ are switched on, switch-off early warning is activated before automatic switch-off of the permanent light.

The function ESV **on the right rotary switch on the side** sets the off delay from 2 to 120 minutes. In setting ∞ normal impulse switch function ES without off delay, without pushbutton permanent light and without switch-off early warning.

In setting ER = switching relay of the middle rotary switch, this rotary switch fulfils a safety and power saving function in the settings except ∞. If the switch-off command is not recognised, e.g. since the pushbutton is jammed or it was pressed too quickly, the relay switches off automatically on expiry of a time adjustable between 2 and 120 seconds. When a FTK is taught-in, this time function is turned off.

Twilight switch with taught-in wireless outdoor brightness sensor FAH and then in function setting ESV. In time setting 120 the contact opens with a delay of 4 minutes if the brightness level is sufficient. In time setting ∞ the contact opens instantly. The local and central push-button control is still possible.

Motion detection with taught-in wireless motion detector FBH in function setting ER. The device switches on when motion is detected. If no more motion is detected, the contact opens after the time delay setting t = 2 to 255 seconds (Position ∞).

Outdoor brightness sensor and motion detector can be used together with function setting ER to evaluate motion only in darkness. If the FAH detects brightness, the contact opens immediately.

When teaching-in, the switching threshold is also taught-in: between break of twilight and complete darkness.

The LED on the side below the left rotary switch accompanies the teach-in process as described in the operation manual. It indicates control commands by short flickering during operation.

Technical data page **T**-1.

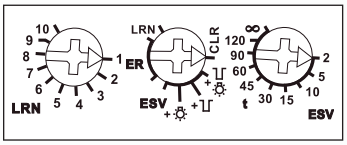
FSR70-230V	Wireless actuator Impulse switch with integr. relay function	EAN 4010312301517	**70,30 €/pc.**

Recommended retail prices excluding VAT.

FSR70W-16A



Function rotary switches on the side



Standard setting ex works.

1 NO contact not potential free 16 A/250 V AC, incandescent lamps up to 2000 watts. With integrated active power measurement up to 3680 watts. Bidirectional wireless and with repeater function. Only 0.9 watt standby loss.

Mounting in the 230 V power supply cord, e.g. in false ceilings.
100 mm long, 50 mm wide and 31 mm deep.

This wireless actuator is an impulse switch with integrated relay function and features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics and a bistable relay with zero passage switching.

By using a bistable relay coil power loss and heating is avoided even in the on mode.

Power is measured by the integrated **active power measurement** from approx 10 W when the contact is closed. A wireless telegram is transmitted into the Eltako wireless network within 20 seconds after switching on the load or after a change in power by min 5% and cyclically every 10 minutes. Signal evaluated by the Wireless Building Visualisation and Control Software GFVS or the energy consumption indicators FEA55.

With **bidirectional wireless;** in addition, a **repeater** function can be switched in. Every change in state and incoming central command telegrams are confirmed by a wireless telegram. This wireless telegram can be taught-in in other actuators, in the software GFVS and in FUA55 universal displays.

With the middle rotary switch on the side in the setting LRN up to 35 wireless pushbuttons can be assigned, of which one or more central control pushbuttons. In addition wireless window/door contacts with the function N/O contact or N/C contact while the window is open. The required function of the impulse switch with integrated relay function can then be selected:

ER = switching relay

ESV = impulse switch. Possibly with off delay, then
+ ☼ = ESV with pushbutton permanent light
+ ⎍ = ESV with switch-off early warning
+ ⎍☼ = ESV with pushbutton permanent light and switch-off early warning

If the permanent light function ☼ is switched on, the function can be activated by pressing the pushbutton for longer than 1 second. This function switches off automatically after 2 hours or by pressing the pushbutton.

If the switch-off early warning ⎍ is switched on, the light starts to flicker approx. 30 seconds before time-out. This is repeated three times at decreasing time intervals.

If both switch-off early warning and pushbutton permanent light ⎍☼ are switched on, switch-off early warning is activated before automatic switch-off of the permanent light.

The function ESV on the right rotary switch on the side sets the off delay from 2 to 120 minutes. In setting ∞ normal impulse switch function ES without off delay, without pushbutton permanent light and without switch-off early warning.

In setting ER = switching relay of the middle rotary switch, this rotary switch fulfils a safety and power saving function in the settings except ∞. If the switch-off command is not recognised, e.g. since the pushbutton is jammed or it was pressed too quickly, the relay switches off automatically on expiry of a time adjustable between 2 and 120 seconds. When a FTK is taught-in, this time function is turned off.

Twilight switch with taught-in wireless outdoor brightness sensor FAH and then in function setting ESV. In time setting 120 the contact opens with a delay of 4 minutes if the brightness level is sufficient. In time setting ∞ the contact opens instantly. The local and central pushbutton control is still possible.

Motion detection with taught-in wireless motion detector FBH in function setting ER. The device switches on when motion is detected. If no more motion is detected, the contact opens after the time delay setting t = 2 to 255 seconds (Position ∞).

Outdoor brightness sensor and motion detector can be used together with function setting ER to evaluate motion only in darkness. If the FAH detects brightness, the contact opens immediately.

When teaching-in, the switching threshold is also taught-in: between break of twilight and complete darkness.

The LED under the left rotary switch on the side performs during the teach-in process as described in the instructions below. It shows wireless control commands by short flickering during operation.

Technical data page **T**-1.

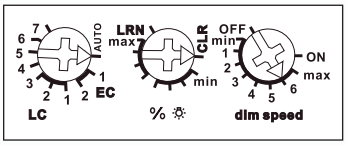
FSR70W-16A	Wireless actuator – Impulse switch with integr. relay function with active power measurement	EAN 4010312312179	**95,90 €/pc.**

Recommended retail prices excluding VAT.

FUD70-230V



Function rotary switches on the side



Standard setting ex works.

Universal dimmer switch, Power MOSFET 400W. Automatic lamp detection. Only 0.6 watt standby loss. With adjustable minimum or maximum brightness and dimming speed. With switching operation for light alarm clocks, children's rooms and snooze function. Also with light scene control by PC or wireless pushbuttons. Bidirectional wireless and with repeater function. Only 0.6 watt standby loss.

Mounting in the 230V power supply cord, e.g. in false ceilings.
100mm long, 50mm wide and 31mm deep.

Starting in production week 24/2012 with **bidirectional wireless;** in addition, a **repeater** function can be switched in. Every change in state and incoming central command telegrams are confirmed by a wireless telegram. This wireless telegram can be taught-in in other actuators, in the FVS software and in FUA55 universal displays.

Universal dimmer switch for lamps up to 400W, depending on ventilation conditions. Dimmable energy saving lamps ESL and dimmable 230V LED lamps, additionally depending on the lamps electronics.

Zero passage switching with soft ON and soft OFF to protect lamps.

The brightness level is stored on switch-off (memory).

In case of a power failure the switch position and the brightness stage are stored and may be switched on when the power supply is restored.

Automatic electronic overload protection and overtemperature switch-off.

The left rotary switch determines the operation, whether automatic lamp detection or special comfort positions should work:

AUTO allows the dimming of all lamp types.

EC1 is a comfort position for energy saving lamps, which which by design must be turned on with an increased voltage so that they switch on again in cold state when dimmed down.

EC2 is a comfort position for energy saving lamps, which by design won't switch on again when dimmed down. Therefore Memory is switched off in this position.

LC1 is a comfort position for LED lamps, which by design won't be dimmed down enough in the AUTO position (trailing phase angle) and therefore has to be forced to leading phase angle.

LC2 and **LC3** are comfort positions for LED lamps like LC1 but with different dimming curves.

In positions EC1, EC2, LC1, LC2 and LC3 inductive (wound) transformers may not be used. In addition, the maximum number of dimmable LED lamps may be lower by design than in the AUTO position.

The minimum brightness (fully dimmed down) or maximum brightness (fully dimmed up) is adjustable **with the middle % ☼ rotary switch** on the side. In the setting LRN up to 30 push-buttons can be assigned, of which one or more central pushbuttons.

The dimming speed is adjustable using the **right dimming speed rotary switch** on the side. At the same time, the soft ON and soft OFF periods are changed.

The wireless pushbuttons can be taught-in either as direction switches or universal switches:

When installed as a direction switch, one side is then 'switch on and dim up' and the other side is 'switch off and dim down'.
A double-click on the switch-on side activates automatic dim-up to full brightness at dim speed. A double click on the switch-off side activates the snooze function. The children's room function is implemented on the switch-on side.

As a universal switch, change the direction by briefly releasing the pushbutton.

Light scene control, light wake-up switching, switching operation for children's rooms and snooze function according to the operating instruction.

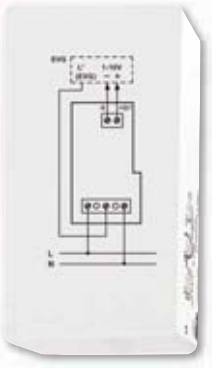
The LED on the side below the left rotary switch accompanies the teach-in process as described in the operation manual. It indicates control commands by short flickering during operation.

Technical data page **T**-1.

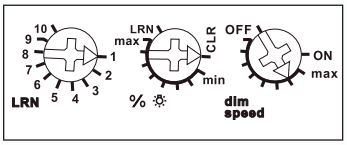
FUD70-230V	Wireless actuator – Universal dimmer switch	EAN 4010312301524	**88,30 €/pc.**

Recommended retail prices excluding VAT.

FSG70/1-10V



Function rotary switches on the side



Standard setting ex works.

Dimming actuator 1 channel, 1 NO contact not potential free 600 VA and 1-10 V control output 40 mA. With adjustable minimum brightness and dimming speed. With switching operation for light alarm clocks, children's rooms and snooze function. Bidirectional wireless and with repeater function. 1.7 watts standby loss.

Mounting in the 230 V power supply cord, e.g. in false ceilings.
100 mm long, 50 mm wide and 25 mm deep.

From production week 38/2012 **bidirectional wireless** and **repeater function** can be switched on. Every change in state and incoming central command telegrams are then confirmed by a wireless telegram. This wireless telegram can be taught-in in other actuators, in the FVS software and in FUA55 universal displays.

State-of-the-art hybrid technology combines advantages of nonwearing electronic control.

Zero passage switching to protect contacts.

The brightness level is stored on switch-off (memory).

In case of a power failure the switch position and the brightness stage are stored and may be switched on when the power supply is restored.

The minimum brightness (fully dimmed) is adjustable with the %☼ rotary switch on the side. In the setting LRN up to 35 wireless pushbuttons can be assigned, of which one or more central pushbuttons.

The dimming speed is adjustable using the **dimming speed rotary switch on the side.**

The load is switched on and off by a bistable relay at output EVG. Switching capacity for fluorescent lamps or LV halogen lamps with EVG 600 VA.

By using a bistable relay coil power loss and heating is avoided even in the on mode.

After installation, wait for short automatic synchronisation before the switched consumer is connected to the mains.

The pushbuttons can be taught-in either as direction switches or universal switches:

As a direction switch, press up is brighter and press down is darker respectively above short pressing means switch ON and below short pressing switch OFF. A double click above activates automatic updimming until full brightness with dim speed. A double click below activates snooze function. The children's room function will be realized with the upper switch.

As a universal switch, change the direction by briefly releasing the pushbutton. With switching operation for children's rooms and snooze function.

Switching for light alarm clocks: A wireless signal of a time clock which was taught-in accordingly starts the wake up function by switching on the light at the lowest brightness level and dims up slowly until the maximum level is reached. Dependent on the set dim speed the wake up time is between 30 and 60 minutes. The dimming process is stopped by tapping briefly. The contact of the timer must connect terminals +12 V and LW at least 0.2 seconds.

Switching operation for children's rooms: If the light is switched on by holding down the pushbutton (universal switch or direction switch above), it starts at the lowest brightness level after approx. 1 second and dims up slowly as long as the pushbutton is held down.
The last saved brightness level is not modified.

Snooze function (universal switch or direction switch below): With a double impulse the lighting is dimmed down from the current dimming position to the minimum brightness level and switched off. The current dimming position as well as the adjustable minimum brightness level determine the dimming time (max. = 60 minutes) which can be reduced as required. It can be switched off at any time by short-time control commands during the lighting is dimmed down.

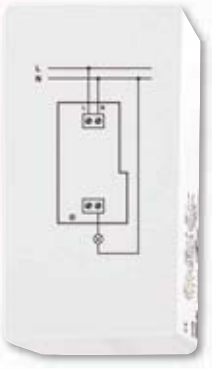
The LED on the side below the left rotary switch accompanies the teach-in process as described in the operation manual. It indicates control commands by short flickering during operation.

Technical data page **T**-1.

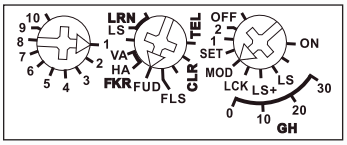
FSG70/1-10V	Dimming actuator Controller for electronic ballast units	EAN 4010312301982	**90,50 €/pc.**

Recommended retail prices excluding VAT.

FMD70-230V



Function rotary switch on the side



Standard setting ex works.

Master universal dimmer switch, Power MOSFET up to 400W. Automatic lamp detection. Only 0.7 watt standby loss. Minimum brightness settable. With switching operation for children's rooms and snooze function. Also with light scene control or constant light control.

Installation in 230V main connecting wire, for example in suspended ceilings. 100mm long, 50mm wide and 31 mm deep.

Universal dimmer switch for R, L and C loads up to 400W dependent on ventilation conditions. Dimmable energy saving lamps (ESL) and dimmable 230V LED lamps are also dependent on the lamp electronics.

Zero passage switching with soft ON and soft OFF to protect lamps.

Switching voltage 230V. No minimum load required.

This dimmer switch is controlled by wireless pushbuttons FT and FFT, the wireless hand-held transmitters FHS and FMH, and the remote controls FF8 and UFB.

The brightness level setting is stored to memory when it is switched off.

If there is a power failure, the switch position and brightness level are saved. The device can also be switched on when the power supply is restored.

Automatic electronic overload protection and overtemperature shutdown.

The master universal dimmer switch FMD70-230V can control any number of slave universal dimmer switches FSD70-230V by automatic wireless telegrams. The lamps with identical dimming levels can then be increased to any number.

The left rotary switch on the side is required first for teach-in and then in FLS mode defines the number of sequential light scenes:

The middle rotary switch on the side is required first for teach-in and then in service selects the FUD mode (universal dimmer switch). FLS (light scene control) or FKR (constant light control: fully automatic VA or semiautomatic HA).

The right rotary switch is set to MOD in FUD mode. In all other modes, additional functions can be selected as described in the operating instructions.

The wireless pushbuttons can be either taught-in as direction pushbuttons or universal pushbuttons:

As direction pushbutton 'switch on and dim up' is on one side and 'switch off and dim down' on the other side. A double-click on the switch on side triggers the automatic dimming up to full brightness.

As a universal pushbutton the direction change is made by briefly releasing the pushbutton. With switching operation for children's rooms and snooze function.

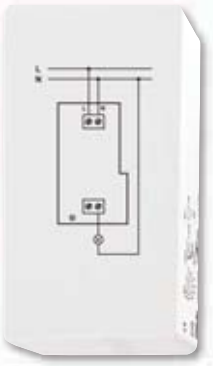
For light scene control, constant light control, children's room function and snooze function, see operating instructions.

The LEDs on the side below the left rotary switch accompany the teach-in process as described in the operating instructions and indicate the commands in operation by lighting up briefly.

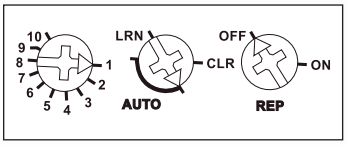
FMD70-230V	Wireless actuator Master universal dimmer switch	EAN 4010312314074	**103,50 €/pc.**

Recommended retail price plus statutory VAT.

FSD70-230V



Function rotary switches on the side



Standard setting ex works.

Slave universal dimmer switch, Power MOSFET up to 400W. Automatic lamp detection. Only 0.7 watt standby loss. With switching operation for children's rooms and snooze function. Also with light scene control or constant light control. Switchable repeater function.

Installation in 230V main connecting wire, for example in suspended ceilings. 100mm long, 50mm wide and 31 mm deep.

Universal dimmer switch for R, L and C loads up to 400W dependent on ventilation conditions. Dimmable energy saving lamps (ESL) and dimmable 230V LED lamps are also dependent on the lamp electronics.

Zero passage switching with soft ON and soft OFF to protect lamps.

Switching voltage 230V. No minimum load required.

The brightness level setting is stored to memory when it is switched off.

If there is a power failure, the switch position and brightness level are saved. The device can also be switched on when the power supply is restored.

Automatic electronic overload protection and overtemperature shutdown.

This slave universal dimmer switch FSD70-230V is controlled by a master universal dimmer switch FMD70-230V by wireless telegrams. Lamps with identical dimming levels can then be increased to any number.

In addition a wireless pushbutton can be taught-in as direction pushbutton. Slave mode can be left using this pushbutton. The connected lamps are dimmed and switched with this push-button until the circuit is switched back to slave mode.

The left rotary switch on the side is required to teach-in the direction pushbutton if required.

The middle rotary switch on the side is required to teach-in the direction pushbutton if necessary and is in AUTO position in operation.

The right rotary switch activates the repeater function.

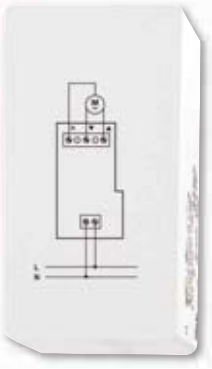
Slave universal dimmer switches FSD70 need not be taught-in individually. If they are in AUTO position, the master FMD70 is set to TEL and the supply voltage is switched on together for all dimmer switches, then the master FMD70 sends a teach-in telegram to all FSD70.

The LEDs on the side below the left rotary switch accompany the teach-in process as described in the operating instructions and indicate the commands in operation by lighting up briefly.

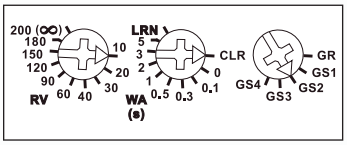
FSD70-230V	Wireless actuator Slave universal dimmer switch	EAN 4010312314081	**103,50 €/pc.**

Recommended retail price plus statutory VAT.

FSB70-230V



Function rotary switches on the side



Standard setting ex works.

Impulse group switch 1+1 NO contact not potential free 10A/250V AC, for roller blinds and shading systems. Bidirectional wireless and with repeater function. Only 0.6 watt standby loss.

Mounting in the 230V power supply cord, e.g. in false ceilings.
100mm long, 50mm wide and 31mm deep.

This wireless actuator is an impulse group switch and features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics and two bistable relays with zero passage switching.

By using a bistable relay coil power loss and heating is avoided even in the on mode. After installation, wait for short automatic synchronisation before the switched consumer is connected to the mains.

Starting in production week 21/2012 with **bidirectional wireless;** in addition, a **repeater** function can be switched in. Every change in state and incoming central command telegrams are confirmed by a wireless telegram. This wireless telegram can be taught-in in other actuators, in the FVS software and in FUA55 universal displays.

With the middle rotary switch in the setting LRN up to 35 wireless pushbuttons can be assigned, of which one ore more central pushbuttons. Then the automatic turning system (WA) is set using the same rotary switch.

The required function of the actuator can then be selected **with the right rotary switch:**

GS1 = Group switch with pushbutton control and off delay in seconds. Both a wireless push-button with the function 'Up-Hold-Down-Hold' as well as the local pushbutton can be taught-in or a wireless pushbutton like a roller Venetian blind double pushbutton with pressing above 'Up' and pressing below 'Down'. Tap briefly to interrupt the movement immediately. **Dynamic central control with and without priority can be implemented.**

GS2 = Group switch same as GS1, central switch always without priority.

GS3 = Group switch same as GS2, in addition with double-click **reverse function** for a wireless pushbutton as universal switch taught-in appropriately: After double-clicking, the Venetian blind moves in the opposite direction until it is stopped by a brief tap.

GS4 = Group switch same as GS2, in addition with tip reverse function: The control push-button is initially in static mode. The relay is energised as long as the pushbutton is tapped so that the Venetian blind can be reversed in the opposite direction by short impulses.

GR = Group relay. As long as the wireless pushbutton is closed, a contact is closed. Then it reopens. On reception of the next wireless signal the other contact closes, etc.

Shading scene control: Up to 4 saved 'Down' running times are retrievable using the control signal of a pushbutton and double rocker taught-in as a scene button or taught-in by a PC loaded with the FVS software.

If a **wireless outdoor brightness sensor FAH60** is also taught-in in addition to a scene push-button, the taught-in scenes 1, 2 and 4 are executed automatically depending on the outdoor brightness.

With the left rotary switch the off delay can be set in position 'Hold' in seconds. Therefore, the time delay must be chosen at least as long as the shading element or roller shutter will need to move from one limit position to the other.

When a wireless window/door contact FTK or Hoppe window handle is taught-in, a lock-out protection is set up while the door is open and disables a Central Down command.

The LED on the side below the left rotary switch accompanies the teach-in process as described in the operation manual. It indicates control commands by short flickering during operation.

Technical data page **T**-1.

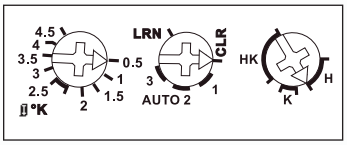
FSB70-230V	Wireless actuator Impulse group switch	EAN 4010312303207	**79,60 €/pc.**

Recommended retail prices excluding VAT.

FHK70-230V



Function rotary switches on the side



Standard setting ex works.

1+1 NO contact not potential free 10 A/250 V AC, 2 channels. Only 0.9 watt standby loss.

Mounting in the 230 V power supply cord, e.g. in false ceilings.
100 mm long, 50 mm wide and 25 mm deep.

This wireless actuator features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics and two bistable relays with zero passage switching.

By using a bistable relay coil power loss and heating is avoided even in the on mode. After installation, wait for short automatic synchronisation before the switched consumer is connected to the mains.

This heating/cooling relay assesses information about wireless temperature controllers or sensors. Possibly supplemented by window/door contacts FTK, motion detectors FBH and Hoppe window handles.

Left rotary switch for adjustable hysteresis:

Left stop: lowest hysteresis 0.5°.
Right stop: largest hysteresis 4.5°. Inbetween, divisions in steps of 0.5°.

Middle rotary switch for regulation types:

AUTO 1: With PWM control at T = 4 minutes. (PWM = pulse width modulation). (suitable for valves with thermoelectric valve drive)

AUTO 2: With PWM control at T = 15 minutes. (suitable for valves with motor-driven valve drive)

AUTO 3: With 2-point control.

Right rotary switch for operating modes:

H: heating mode (Contacts L-1 and L-2); **K:** cooling mode (Contacts L-1 and L-2);

HK: heating mode (Contact L-2) and cooling mode (Contact L-1)

Two-point control mode: The hysteresis rotary switch sets the required difference between the switch-on and switch-off temperatures. When the 'actual temperature >= reference temperature', the device is switched off. When the 'actual temperature <= (reference temperature – hysteresis)', the device is switched on. The signs are the opposite in cooling mode.

PWM control mode: The hysteresis rotary switch set the required temperature difference at which the device is switched on at 100%. When the 'actual temperature >= reference temperature', the device is switched off.
When the 'actual temperature <= (reference temperature – hysteresis)', the device is switched on at 100%. If the 'actual temperature' lies between the 'reference temperature – hysteresis' and the 'reference temperature', the device is switched on and off with a PWM in steps of 10% depending on the temperature difference. The lower the temperature difference, the shorter the switch-on time. As a result of the settability of the 100% value, the PWM can be adapted to the heater size and inertia. The signs are the opposite in cooling mode.

In heating mode, the **frost protection function** is always enabled. As soon as the actual temperature drops below 8°C, the temperature is controlled in the selected operating mode to 8°C.

If one or several windows are open, the output remains off **provided the window/door contacts FTK or Hoppe window handles** are taught-in. In heating mode, however, the frost protection remains enabled.

As long as all taught-in **motion detectors FBH** detect no motion, the device is switched to setback mode. In heating mode, the reference temperature is set back by 2°; in cooling mode, it is raised by 2°. As soon as a motion detector signals movement again, the device is switched to normal mode.

When a **wireless pushbutton FT4** is taught-in, the assignment of the 4 keys is assigned with the following fixed functions: Top right: Normal mode (can also be enabled by timer). Bottom right: Night setback mode by 4°; in cooling mode, raised by 4° (can also be enabled by timer). Top left: Setback mode by 2°, in cooling mode, raised by 2°. Bottom left: Off (in heating mode, frost protection enabled; in cooling mode permanent off). If the motion detector and wireless pushbutton are taught-in at the same time, the last telegram received is always the one that is valid. A motion detector therefore switches off a setback mode selected by wireless pushbutton when a movement is detected.

The LED on the side below the left rotary switch accompanies the teach-in process as described in the operation manual. It indicates control commands by short flickering during operation.

Technical data page **T**-1.

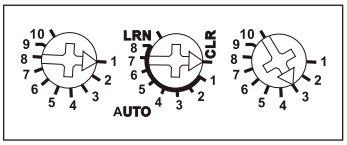
FHK70-230V	Wireless actuator Heating/cooling relay	EAN 4010312304303	**79,60 €/pc.**

Recommended retail prices excluding VAT.

F2L70-230V



Function rotary switches on the side



Standard setting ex works.

2-speed fan actuator 1+1 NO contacts not potential free 10 A/250 V AC. Only 0.9 watt standby loss. Activates passive and active sensors.

Mounting in the 230 V power supply cord, e.g. in false ceilings.
100 mm long, 50 mm wide and 25 mm deep.

This wireless actuator features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics and two bistable relays with zero passage switching.

By using a bistable relay coil power loss and heating is avoided even in the on mode. After installation, wait for short automatic synchronisation before the switched consumer is connected to the mains.

This fan relay evaluates the information of up to 23 passive sensors, e.g. wireless push-buttons, window/door contacts, Hoppe window handles or wireless transmitter modules. A single active sensor for CO_2, humidity or temperature can be taught-in additionally or individually.

When the two contacts are switched in parallel, the 2-speed actuator for 2 fan speeds becomes an actuator for one fan.

The middle rotary switch must be set to position LRN for teach-in.
Set the required operating mode when the fan actuator is in operation.

During the teach-in process, adjust the **left rotary switch** to set the sensor type. A double rocker wireless pushbutton is taught-in in rotary switch position 1. The double rockers are assigned automatically: top left for Stage 1, top right for Stage 2. Bottom left and bottom right OFF, both contacts open. If you switch the two contacts in parallel, one wireless pushbutton and 1 rocker are sufficient. In this case, top is ON and bottom is OFF.

All passive sensors, such as wireless buttons and wireless transmitter modules, can be taught-in in rotary switch position 2. An active sensor can be taught-in in any teach-in position. Only one sensor can be taught-in.

When operated with an active sensor, use the right rotary switch to set the switch-on threshold. When the threshold is reached, stage 1 is switched on. Use the left rotary switch to set the addition value at which Contact 2 closes. The middle rotary switch sets one of the operating modes AUTO1 to AUTO8:

AUTO1 for manual mode of a 2-stage fan by means of a double rocker wireless pushbutton.
Each contact is closed separately (exclusive).

AUTO2 same as AUTO1, Contact 2 cuts in to switch Stage 2 (accumulative).

AUTO1 and AUTO2 cause both contacts to open in the case of passive sensors, such as wireless pushbuttons and transmitter modules which are taught-in as off-switches. As long as the control voltage is applied to transmitter modules or a window monitored by an FTK or Hoppe window handle is open, the contacts are open and can not be switched on manually.

AUTO3: Activating with wireless CO_2 sensor. The switch-on thresholds are set by the rotary switches on the right and left.
The contacts close 'exclusively'.

AUTO4: Same as AUTO3, but activated by the wireless humidity sensor.

AUTO5: Same as AUTO3, but activated by the wireless temperature sensor.

AUTO6: Same as AUTO3, but the contacts close 'adding'.

AUTO7: Same as AUTO4, but the contacts close 'adding'.

AUTO8: Same as AUTO5, but the contacts close 'adding'.

The right and left rotary switches are used in conjunction with sensor activation AUTO3 to AUTO8 to set the switch-on thresholds for Contact 1 and to set accumulative values at which Contact 2 closes.

Overview of switch-on thresholds (right rotary switch):

CO_2 (ppm): 1 = 700 ppm; 2 = 800 ppm; 3 = 900 ppm; 4 = 1000 ppm; 5 = 1200 ppm; 6 = 1400 ppm; 7 = 1600 ppm; 8 = 1800 ppm, 9 = 2000 ppm and 10 = 2200 ppm.

Humidity (%): 1 = 10 %, 2 = 20 %, ... 10 = 100 %.

Temperature (°C): 1 = 20 °C, 2 = 22 °C, 3 = 24 °C, ... 10 = 38 °C.

Overview of addition values (left rotary switch):

CO_2 difference: 1 = 50 ppm, 2 = 100 ppm, 3 = 150 ppm, ... 10 = 500 ppm. Fixed hysteresis: 50 ppm.

Humidity difference: 1 = 5 %, 2 = 10 %, 3 = 15 %, ... 10 = 50 %. Fixed hysteresis: 5 %.

Temperature difference (K): 1 = 1 K, 2 = 2 K, 3 = 3 K, ... 10 = 10 K. Fixed hysteresis: 1 K.

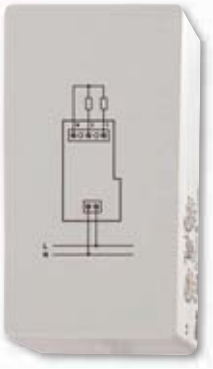
The LED on the side below the left rotary switch accompanies the teach-in process as described in the operation manual. It indicates control commands by short flickering during operation.

Technical data page **T**-1.

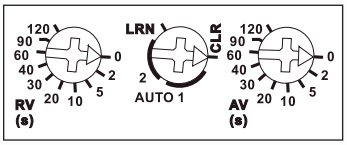
F2L70-230V	Wireless actuator – Fan relay	EAN 4010312305225	**79,60 €/pc.**

Recommended retail prices excluding VAT.

FZK70-230V



Function rotary switches on the side



Standard setting ex works.

1+1 NO contacts not potential free 10A/250V AC, incandescent lamps 2000 watts. Only 0.9 watt standby loss.
Off-delay and response lag are adjustable for one contact.

Mounting in the 230V power supply cord, e.g. in false ceilings.
100mm long, 50mm wide and 25mm deep.

This wireless actuator features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics and a bistable relay.

By using a bistable relay coil power loss and heating is avoided even in the on mode. After installation, wait for short automatic synchronisation before the switched consumer is connected to the mains.

Use the left rotary switch RV to set the time delay time RV between 0 and 120 seconds for Contact L-2.

The middle rotary switch is required for teach-in. It is then used to set the response in case of a power failure. AUTO1 retains the switch position, AUTO2 carries out a defined switch-off.

Use **the right rotary switch AV** to set the response lag time AV between 0 and 120 seconds for Contact L-2.

The AV and RV times permit the simple control of air conditioning systems with the wireless card switches FKF and FKC.

The response lag AV starts as soon as the hotel card/key card is inserted in the wireless card switch FKF and the time delay RV starts after the card is removed.

In addition to the wireless card switch FKF, wireless window/door contacts FTK and Hoppe window handles can also be taught in.

Opening a monitored window also starts the RV time. When the RV time expires, Contact L-2 opens. Closing all monitored windows starts the AV time. When the AV time expires, Contact L-2 closes.

Contact L-1 is provided for light switching and always switches immediately without AV/RV. To increase the switching capacity for one channel, outputs 1 and 2 can be bridged, provided no air conditioning control is required. Then AV and RV must be set to 0.

When motion detectors are taught in, the two channels switch on immediately motion is detected. If no motion is detected for 15 minutes, the two channels are switched off.

Several wireless smoke alarms FRW-ws are logically linked with this switch actuator time relay so that the RV time only starts after all FRW-ws devices have signalled alarm end.

Card switches and smoke alarms can not be operated together with an FZK device.

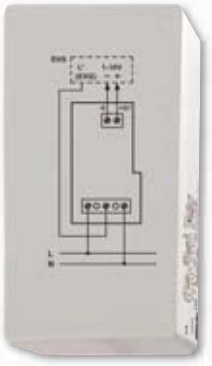
The LED on the side below the left rotary switch accompanies the teach-in process as described in the operation manual. It indicates control commands by short flickering during operation.

Technical data page **T**-1.

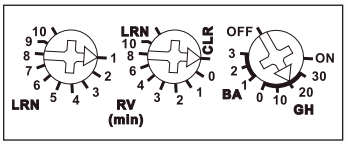
FZK70-230V	Wireless actuator Time relay for card switch	EAN 4010312303863	**79,60 €/pc.**

Recommended retail prices excluding VAT.

FKR70/1-10 V



Function rotary switches on the side



Standard setting ex works.

Dimming actuator 1 channel, 1 NO contact not potential free 600 VA and 1-10 V control output 40 mA. 1.7 watts standby loss. Motion-dependent and brightness-dependent light control with the wireless motion/brightness sensor FBH.

Mounting in the 230 V power supply cord, e.g. in false ceilings.
100 mm long, 50 mm wide and 25 mm deep.

State-of-the-art hybrid technology combines advantages of nonwearing electronic control.

Zero passage switching to protect contacts.

The brightness level is stored on switch-off (memory).

In case of a power failure the switch position and the brightness stage are stored and may be switched on when the power supply is restored.

By using a bistable relay coil power loss and heating is avoided even in the on mode.

After installation, wait for short automatic synchronisation before the switched consumer is connected to the mains.

Function of FKR70

The wireless constant light controller FKR70 receives its signals from one or several wireless motion/brightness sensors FBH and then controls the 1-10 V output or switches the light on or off.

3 operation modes **BA** can be selected:
1 = fully automatic (switch-on and switch-off is brightness and motion controlled),
2 = semi-automatic (only switch-off is brightness and motion controlled) and
3 = switch-off is brightness controlled (motion sensor is not active).

With one wireless pushbutton or wireless hand-held transmitter the automatic system can be overloaded to a preset value in order to dim the light for a beamer presentation, for example.

Several FBHs can be taught-in in a FKR70. As long as one of the motion detection sensors detects activity, the necessary lighting remains on and only after all FBHs report no activity for 1 minute does the adjustable time delay RV commence.

Only 1 FBH (Master) is used for the constant light control.

The FBHs can also be taught-in in several FKR70s. This not only allows an increase in the total switching capacity but also the set-up of zones with different brightness settings by setting different basic brightness values GH. Several independent FKR70 systems can be installed in one room simultaneously.

To teach-in wireless pushbuttons and wireless hand-held transmitters, one rocker is taught-in as direction switches.

Tap the bottom part to switch the light off. Press the top or bottom to dim up or down. This shifts the control automatic towards brighter or darker. A double tap on the bottom part dims down to the taught-in value 'Beamer Presentation'.

When the light is switched off and the top part is held down, the light is dimmed up from the lowest brightness level until the rocker is released. Resetting to automatic control is effected either by automatic light switch-off or by double-tapping the top direction switch.

The beamer value can additionally be taught-in in a further universal switch.

In addition to the beamer value the minimum brightness can be set and stored.

The left rotary switch LRN is required for teach-in and for setting the base brightness.

The middle rotary switch RV is set after teach-in to the required delay time from 0 to 10 minutes. There is also an additional 1 minute of FBH.

The base brightness **GH** dependent on use of the room is set **with the right rotary switch plus the left rotary switch** adding the adjusted values.
The smallest settable value is 1 (0+1), the largest value is 40 (30+10). The normal setting is approx. at 21.

The LED on the side below the left rotary switch accompanies the teach-in process as described in the operation manual. It indicates control commands by short flickering during operation.

Technical data page **T**-1.

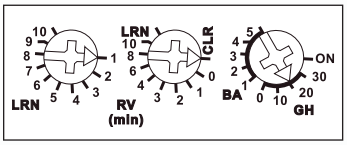
FKR70/1-10V	Wireless actuator Controller for electronic ballast units	EAN 4010312304327	**89,80 €/pc.**

Recommended retail prices excluding VAT.

FKR70UD-230V



Function rotary switches on the side



Standard setting ex works.

Power MOSFET up to 400W, ESL up to 100W and LED up to 100W. Only 0.6 watt standby loss. Motion-dependent and brightness-dependent light control of dimmable energy saving lamps ESL and 230V LED lamps, incandescent and halogen lamps with the wireless motion/brightness sensor FBH or wireless outdoor brightness sensor FAH.

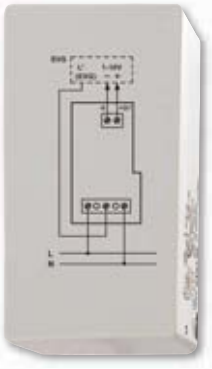
Mounting in the 230V power supply cord, e.g. in false ceilings.
100mm long, 50mm wide and 25mm deep.
Universal dimmer switch for R, L and C loads up to 400 watts, depending on ventilation conditions. Dimmable energy saving lamps ESL up to 100 watts and dimmable 230V LED lamps up to 100 watts. Automatic detection of load R+L or R+C. ESL and LED manually settable.
Zero passage switching with soft ON and soft OFF to protect lamps.
The brightness level is stored on switch-off (memory).
In case of a power failure the switch position and the brightness stage are stored and may be switched on when the power supply is restored.
Automatic electronic overload protection and overtemperature switch-off.
The wireless constant light controller receives its information from one or several wireless sensors FAH or FBH and then controls the output or switches the light on or off. Since incandescent lamps and halogen lamps have a large infrared percentage like daylight, these lamps can only be controlled by measuring the brightness outside the building by a wireless outdoor brightness sensor FAH acting as master. Motion detection takes place inside the room by a FBH acting as slave. Dimmable energy saving lamps and LED require only a FBH inside the room for brightness control and motion detection.
Operating modes BA are taught-in: 1 = fully automatic ESL (for brightness-dependent and motion-dependent switch-on and switch-off of ESL), **2 = semiautomatic ESL** (only for brightness-dependent and motion-dependent switch-off of ESL), **3 = switch-off of ESL is brightness-dependent** (only for brightness-dependent switch-off of ESL, the motion sensor inside the FBH is then inactive), **4 = fully automatic incandescent/ halogen lamps, 5 = semiautomatic incandescent/halogen lamps, 0 = fully automatic 230V LED lamps (dimming curve 1), 10 = semiautomatic 230V LED lamps** (dimming curve 1), **20 = fully automatic 230V LED lamps** (dimming curve 2), **30 = semiautomatic 230V LED lamps** (dimming curve 2).
With one wireless pushbutton or wireless hand-held transmitter the automatic system can be overloaded to a preset value in order to dim the light for a beamer presentation, for example.
Several FBHs can be taught-in in a constant light controller. As long as one of the motion detection sensors detects activity, the necessary lighting remains on and only after all FBHs report no activity for 1 minute does the adjustable time delay RV commence.
Only a FBH in operation mode BA 1, 2 or 3, otherwise a FAH provides constant light control.
The FBHs and FAHs can also be taught-in in several constant light controllers. This not only allows an increase in the total switching capacity but also the set-up of zones with different brightness settings by setting different basic brightness values GH. Several independent constant light controller systems can be installed simultaneously.
To teach-in wireless pushbuttons and wireless hand-held transmitters, one rocker is taught-in as direction switches.
Tap the bottom part to switch the light off. Press the top or bottom to dim up or down.
This shifts the control automatic towards brighter or darker. A double tap on the bottom part dims down to the taught-in value 'Beamer Presentation'. When the light is switched off and the top part is held down, the light is dimmed up from the lowest brightness level until the rocker is released. Resetting to automatic control is effected either by automatic light switch-off or by double-tapping the top direction switch. The beamer brightness can additionally be taught-in in a further universal switch.
In addition to the beamer brightness the minimum brightness can be set and stored.
The left rotary switch LRN is required for teach-in and for setting the base brightness.
The middle rotary switch RV is set after teach-in to the required delay time from 0 to 10 minutes, provided a FBH is available. There is also an additional 1 minute of FBH.
The base brightness **GH** dependent on use of the room is set **with the right rotary switch plus the upper rotary switch** adding the adjusted values. The smallest settable value is 1 (0+1), the largest value is 40 (30+10). The normal setting is approx. at 21.
The LED on the side below the left rotary switch accompanies the teach-in process as described in the operation manual. It indicates control commands by short flickering during operation.

Technical data page **T**-1.

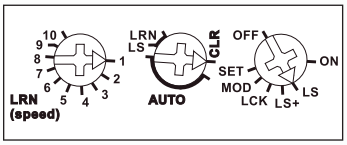
FKR70UD-230V	Wireless actuator – Constant light controller with universal dimmer switch	EAN 4010312304518	**89,80 €/pc.**

Recommended retail prices excluding VAT.

FLS70/1-10V



Function rotary switches on the side



Standard setting ex works.

Dimming actuator 1 channel, 1 NO contact not potential free 600 VA and 1-10 V control output 40 mA. Only 1.7 watt standby loss.
Stores up to 40 light scenes for a fluorescent lamp group with 1-10 V ballasts.
Also with light scene control by PC or wireless pushbuttons.

Mounting in the 230 V power supply cord, e.g. in false ceilings.
100 mm long, 50 mm wide and 25 mm deep.

State-of-the-art hybrid technology combines advantages of nonwearing electronic control with high switching capacity of special relays.

Zero passage switching to protect contacts.

The brightness level is stored on switch-off (memory).

In case of a power failure the switch position and the brightness stage are stored and may be switched on when the power supply is restored.

By using a bistable relay coil power loss and heating is avoided even in the on mode.

After installation, wait for short automatic synchronisation before the switched consumer is connected to the mains.

Function of FLS70/1-10 V

All FLS70's in a room can be switched in series to obtain light scenes. The brightness of each lamp group is manually adjustable and the entire light scene can then be taught-in.
Up to 40 light scenes are programmable.
Up to 10 light scenes are retrievable sequentially with only one pushbutton.
Up to 30 additional light scenes are directly retrievable with single assigned pushbuttons.

Each FLS70 or FLS70 groups can also be switched and dimmed individually with direction switches. There are a total of 35 inputs on each FLS70 for light scene and individual push-buttons. Retrieving a light scene overrides an individual setting.

The same function as a light scene pushbutton has an associated taught-in wireless transmitter module FSM12 or FSM61. Specific light scenes can then be retrieved with event-dependent or time-dependent control.

Motion detection with taught-in wireless motion detector FBH. The light switches off automatically after 15 minutes provided no more motion is detected.

Light scenes on the PC are set and retrieved using the Wireless Visualisation and Control Software FVS. One or several FLS70 devices must be taught in on the PC as dimming switches with percentage brightness values.

Lights scenes with wireless pushbuttons are taught in on the FLS70 device. Either four sequentially retrievable brightness values (press up = next light scene, press down = previous light scene) and/or up to four brightness values taught in a light scene pushbutton with double rocker.

The LED on the side below the left rotary switch accompanies the teach-in process as described in the operation manual. It indicates control commands by short flickering during operation.

Technical data page **T**-1.

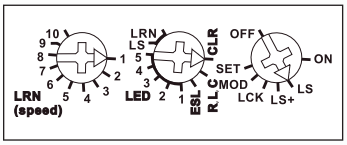
FLS70/1-10V	Dimming actuator Controller for electronic ballast units	EAN 4010312304334	**91,10 €/pc.**

Recommended retail prices excluding VAT.

FLS70UD-230V



Function rotary switches on the side



Standard setting ex works.

Power MOSFET up to 400W, ESL up to 100W and LED up to 100W. Only 0.6 watt standby loss. Stores up to 40 light scenes for a group of dimmable energy saving lamps ESL 230V LED lamps, incandescent lamps and halogen lamps. Also with light scene control by PC or wireless pushbuttons.

Mounting in the 230V power supply cord, e.g. in false ceilings.
100mm long, 50mm wide and 25mm deep.

Universal dimmer switch for R, L and C loads up to 400 watts. Dimmable energy saving lamps ESL up to 100 watts and dimmable 230V LED lamps up to 100 watts.

Zero passage switching with soft ON and soft OFF to protect lamps.

The brightness level is stored on switch-off (memory).

In case of a power failure the switch position and the brightness stage are stored and may be switched on when the power supply is restored.

Automatic electronic overload protection and overtemperature switch-off.

Function of FLS70UD-230V

All FLS in a room can be switched in series to obtain light scenes. The brightness of each lamp group is manually adjustable and the entire light scene can then be taught-in. Up to 40 light scenes are programmable. Up to 10 light scenes are retrievable sequentially with only one pushbutton. Up to 30 additional light scenes are directly retrievable with single assigned pushbuttons.

Each FLS or FLS groups can also be switched and dimmed individually with direction switches. There are a total of 35 light scene and individual pushbuttons on each FLS. Retrieving a light scene overrides an individual setting.

A wireless transmitter module FSM12 or FSM61 appropriately taught-in has the same function as a light scene switch. Specific light scenes can then be retrieved with event-dependent or time-dependent control.

Position R, L, C is the setting for all load types except for ESL and LED. In particular for 230V glow and halogen lamps. The load type, inductive or capacitive, is detected automatically.

The setting ESL considers the special conditions regarding dimmable energy saving lamps: The starting operation is optimized and adapted to the dimming curve. In this setting no wound (inductive) transformer must be dimmed.

The position LEDs take account of special conditions with dimmable 230V LED lamps: A number of different dimming curves are available. In these settings no wound (inductive) transformer must be dimmed.

Motion detection with taught-in wireless motion detector FBH. The light switches off automatically after 15 minutes provided no more motion is detected.

Light scenes on the PC are set and retrieved using the Wireless Visualisation and Control Software FVS. One or several FLS70UD devices must be taught in on the PC as dimming switches with percentage brightness values.

Lights scenes with wireless pushbuttons are taught in on the FLS70UD device. Either four sequentially retrievable brightness values (press up = next light scene, press down = previous light scene) and/or up to four brightness values taught in a light scene pushbutton with double rocker.

The LED on the side below the left rotary switch accompanies the teach-in process as described in the operation manual. It indicates control commands by short flickering during operation.

Technical data page **T**-1.

FLS70UD-230V	Wireless actuator – Light scene controller with universal dimmer switch	EAN 4010312304525	**91,10 €/pc.**

Recommended retail prices excluding VAT.

FSSA-230 V



1 NO contact not potential free 10 A/250 V AC, incandescent lamps up to 2000 watts, ESL and LED up to 400 W. Bidirectional wireless and repeater function are switchable. Only 0.7 watt standby loss.

Adapter for German fused safety socket. With increased shock protection.
This wireless actuator features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics and a bistable relay.
Bidirectional wireless and **repeater** function can be switched on. Every change in state and incoming central command telegrams are then confirmed by a wireless telegram.This wireless telegram can be taught into other actuators, the software GFVS 3.0, and universal displays FUA55.
Up to 35 wireless pushbuttons are assigned **with the left button LRN,** either as a universal pushbutton, direction pushbutton or central pushbutton.
It can be switched on and off manually **with the right button.**
The LED performs during the teach-in process according to the operation manual. It shows wireless control commands by short flickering during operation.

January 2013.

Technical data page **T**-1.

FSSA-230V	Wireless actuator Socket switching actuator	EAN 4010312314562	**93,50 €/pc.**

FSVA-230 V



1 NO contact not potential free 10 A/250 V AC, incandescent lamps up to 2000 watts, ESL and LED up to 400 W. With integrated current measurement up to 10 A. Bidirectional wireless and repeater function are switchable. Only 0.7 watt standby loss.

Adapter for German fused safety socket. With increased shock protection.
This wireless actuator features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics and a bistable relay.
Apparent power is measured by the integrated current measurement from approx. 10 VA to 2300 VA when the contact is closed. A wireless telegram is transmitted into the Eltako wireless network within 30 seconds after switching on the load or after a change in power by min 5% and cyclically every 10 minutes. Signal evaluated by the Wireless Visualisation and Control Software GFVS 3.0 or the energy consumption indicators FEA55.
Evaluation on the computer with Eltako Wireless Building Visualisation and Control Software GFVS or with energy consumption indicators FEA55LED or FEA55D. GFVS-Energy supports up to 100 transmitter modules and GFVS 3.0 up to 250 transmitter modules.
Bidirectional wireless and **repeater** function can be switched on. Every change in state and incoming central command telegrams are then confirmed by a wireless telegram.This wireless telegram can be taught into other actuators, the software GFVS 3.0, and universal displays FUA55.
Up to 35 wireless pushbuttons are assigned **with the left button LRN,** either as a universal pushbutton, direction pushbutton or central pushbutton.
It can be switched on and off manually **with the right button.**
The LED performs during the teach-in process according to the operation manual. It shows wireless control commands by short flickering during operation.

January 2013.

Technical data page **T**-1.

FSVA-230 V	Wireless actuator – Socket switching actuator with current measurement	EAN 4010312314555	**99,90 €/pc.**

Recommended retail prices excluding VAT.

FSUD-230V



Universal dimmer switch, 300W power MOSFET. Automatic lamp detection. Only 0.6 watt standby loss. With adjustable minimum brightness. With switching operation for children's rooms and snooze function. Bidirectional wireless and repeater function are switchable.

Adapter for German fused safety socket. With increased shock protection.

Universal dimmer switch for lamps up to 300W. Dimmable energy saving lamps ESL and dimmable 230V-LED lamps, dependent on the lamps electronics.

Zero passage switching with soft ON and soft OFF to protect lamps.

No minimum load.

This dimmer switch is activated by wireless pushbuttons FT and FFT, handheld wireless transmitters FHS and FMH, and remote controls FF8 and UFB.

The set brightness level is stored when switched off (memory), but can be switched off for ESL lamps.

In case of a power failure the switch position and the brightness stage are stored and may be switched on when the power supply is restored.

Automatic electronic overload protection and overtemperature switch-off.

Bidirectional wireless and **repeater** function can be switched on. Every change in state and incoming central command telegrams are then confirmed by a wireless telegram.This wireless telegram can be taught into other actuators, the software GFVS 3.0, and universal displays FUA55. The current dimming value is also displayed in % in the software GFVS.

Up to 35 wireless pushbuttons are assigned **with the left button LRN,** either as a universal pushbutton, direction pushbutton or central pushbutton.

It can be switched on and off manually **with the right button.**

The pushbuttons can be either taught-in as direction pushbuttons or universal pushbuttons:

As direction button 'switch on and dim up' is on one side and 'switch off and dim down' on the other side. A double-click on the switch on side triggers the automatic dimming up to full brightness. A double-click on the switch off side triggers the snooze function. The children's room function is triggered on the switch on side. **As a universal pushbutton** the direction change is made by briefly releasing the pushbutton.

For children's room circuit and sleep timer, refer to the operator manual.

The LED performs during the teach-in process accord ing to the operation manual. It shows wireless control commands by short flickering during operation.

January 2013.

Technical data page **T**-1.

FSUD-230V	Wireless actuator Socket universal dimmer switch	EAN 4010312314791	**108,20 €/pc.**

Recommended retail prices excluding VAT.

FUA55LED

min



Universal display with 10 LEDs for individual fitting and integration in the 55x55 mm and 63x63 mm switch system. Standby loss 0.8 watt only.

The scope of supply includes a frame R, an intermediate frame ZR in the same colour and a mounting plate. In addition, an intermediate frame ZRF in the same colour is supplied for installation in an existing frame R1F, R2F or R3F for flat pushbuttons.

Supply voltage 230 V.

A 20 cm long black/blue connecting wire is routed to the rear.

Before screwing on, remove the frame and intermediate frame from the mounting plate. To do this, press out the catches on the mounting plate. Then screw on the mounting plate - with the catches at the top and bottom -, snap on the frame and the intermediate frame, and connect and snap on the universal indicator.

We recommend sheet metal countersunk screws 2.9x25 mm, DIN 7982 C, for screw connections on 55 mm switch boxes. See Accessories on page Z-6.

Since all LED displays can be taught in individually or together, universal displays are possible. Up to 4 sensors can be taught-in in an LED display.

Position display with single LED
The numbered LEDs can be taught in individually to indicate the position of up to 10 windows, doors, roller shutters, shading elements and lights as well as for room surveillance with FBH. Either with window/door contacts, Hoppe window handles, relay outputs, motion detectors or the new bidirectional actuators with switch position feedback. In addition, wireless pushbuttons and hand-held transmitters can be taught-in.

A light sensor controls the brightness of the LEDs depending on the ambient brightness. In addition, the small rotary switch underneath the LEDs influence the automatic brightness control: starting from middle position, turn to the left = darker, turn to the right = brighter. Automatic control is switched off in the end positions.

Call signals with all LEDs
Two different call signals can be taught in: 'all LEDs blinking simultaneously' and 'all LEDs flowing in a circle'. If both light alerts occur simultaneously, then the two semicircles blink alternately. Either an **off-delay** (e.g. that a short doorbell contact is displayed for a longer time) or an **'acknowledgement pushbutton'** can be taught-in for this light calls.

Acknowledge light call signals
If a call is initiated via a wireless transmitter FMH2S-wr on the carry strap, the call can be cleared by a wireless pushbutton taught-in as an 'acknowledgement button'.

FUA55LED-ws	Universal display with LED white	EAN 4010312303689	**72,30 €/pc.**
FUA55LED-rw	Universal display with LED pure white	EAN 4010312303696	**72,30 €/pc.**
FUA55LED-an	Universal display with LED anthracite	EAN 4010312303726	**72,30 €/pc.**
FUA55LED-sz	Universal display with LED black	EAN 4010312303702	**72,30 €/pc.**
FUA55LED-wg*	Universal display with LED pure white glossy	EAN 4010312303719	**72,30 €/pc.**
FUA55LED-al	Universal display with LED coated/aluminium paint	EAN 4010312310755	**81,10 €/pc.**

* The bottom of the housing is matt.

Recommended retail prices excluding VAT.

FGM

min



Wireless module for fitting in the 3xAA battery compartment of gongs or any other plastic housing. Only 0.5 watt standby loss.

52 mm long, 42 mm wide and 16 mm deep.

This wireless module is suitable for all gongs that can be powered with 3 pieces AA batteries or with 8 to 12 V UC transformer connection and activated by one contact.

The gong module FGM also fits in the much larger battery compartment for 3 or 4 pieces baby cells.

The gong module is placed in the battery compartment in accordance with the operating instructions and connected to the gong terminals.

The gong and the wireless module is powered by a switch mode power supply unit FSNT61-230 V/12 V DC which is fitted in a flush-mounted wall socket behind the gong and requires a 230 V connection.

Normal switches can also be connected to the appropriate gong terminals.

For teaching-in a rotary switch is located on the board. Then it is set to AUTO (clockwise).

In addition to one or several wireless switches, wireless window/door contacts FTK, motion detector/brightness sensors FBH and Hoppe window handles can be taught in.

The LED performs during the teach-in process according to the operation manual. It shows wireless control commands by short flickering during operation.

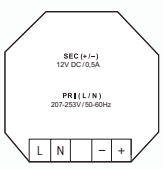
Examples of suitable gongs:
Friedland D844 and D525S
Grothe Croma 100

FGM	Wireless module	EAN 4010312303290	**54,90 €/pc.**

FSNT61-12V/6W

min





Rated capacity 6 W. Standby loss 0.1 watt only.

For installation. 45 mm long, 55 mm wide, 33 mm deep.

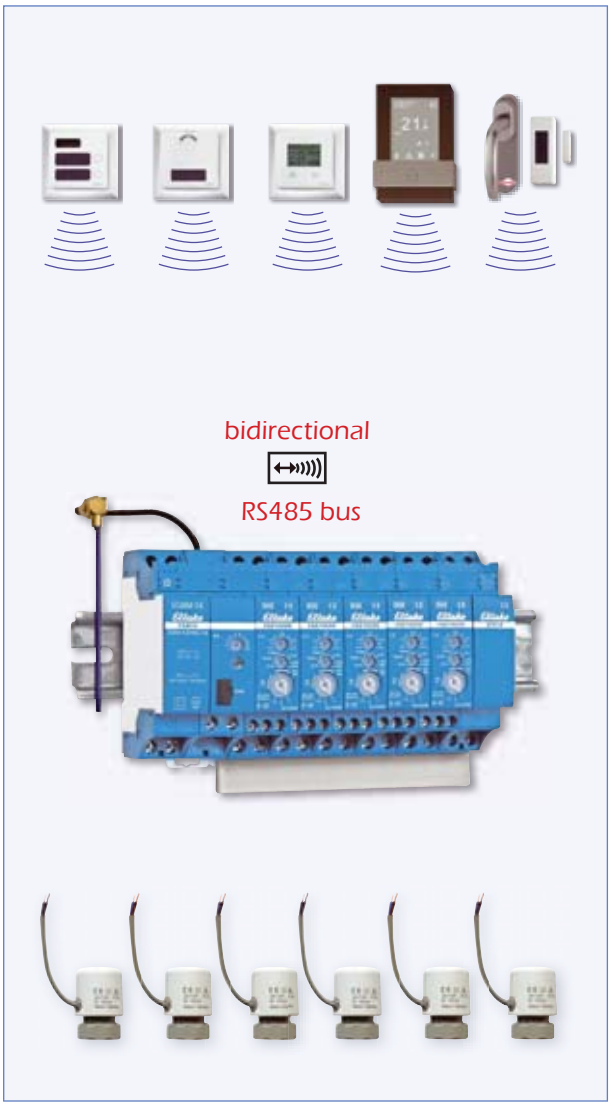
Input voltage 230 V (-20% up to +10%). Efficiency 81%.

Stabilised output voltage ±1%, low residual ripple. Short-circuit proof.

Overload protection and over-temperature switch-off by means of swichting off with automatic switching-on after fault clearance (autorecovery function).

FSNT61-12V/6W		EAN 4010312313145	**30,00 €/pc.**

Recommended retail prices excluding VAT.



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Wireless actuators in heating circuit distributors with wireless room temperature controllers

Wireless room temperature controllers transmit wireless telegrams containing setpoints and actual values to a wireless antenna module in the heating circuit distributor. The distributor passes on the received data via an internal RS485 bus to actuators to control the device motors.

The modular design means that only the hardware actually needed is installed. This saves the cost of unnecessary actuators.

The usual term 'single room control' does not mean that only one room is controlled. In fact, zones are controlled. Every zone (e.g. every room) may have a separate room temperature controller and several zones in a room may have a common controller.

The power supply unit integrated in the antenna module can power up to 25 actuators and each actuator can control 1 or 2 heat zones. 2 actuators per zone can be directly connected.

If several actuators are required per zone, additional actuators are simply assigned to one zone.

The smallest unit comprises a 2 pitch unit (PU) wide antenna module FAM14 and 1 PU wide 2 zone actuator FAE14.
One PU is only 1.8 cm wide.

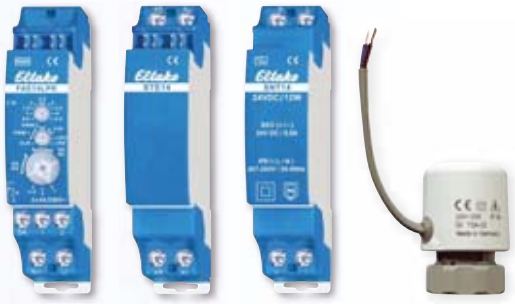
The total width of the smallest unit with 2 zones is therefore only 3 PU = 5.4 cm. With 6 zones, the module width adds up to only 11 cm and with 12 zones, the total width is only 18 cm.

The actuators are powered by electronic solid state relays for 230 V actuators which have a practically unlimited service life, type FAE14SSR. In addition with conventional PCB relays for 24 V actuators, type FAE14LPR.

Modules are quickly cross-connected to the upper information side (bus and internal power supply) by means of jumpers.



FAM14 | FAE14SSR



FAE14LPR | STE14 | SNT14 | TSA02NC

With 230 V actuators and with 3 actuators and more (6 zones), it is recommended to fit 1 PU wide power supply unit STE14 snapped on the right with a pre-terminated busbar SAS. Otherwise they are connected by wire jumpers.

24 V DC actuators are powered by 12 W, 24 W or 48 W by a switch mode power supply unit SNT14-24 V DC snapped on the right hand side. For 3 actuators or more, it can be connected using the preterminated busbar SAS.

Module covers MA14 provide touch proof protection for the modules.

Fully preassembled basic units

To simplify parts organisation for electrical fitters, we supply a number of different basic units ex works which can be modularly fitted and snapped together. The jumpers to connect the RS485 bus and the internal power supply as well as the module cover are already plugged.

In addition, a bus terminating resistor is fitted on the left of the wireless antenna module and a dummy panel is fitted to an actuator on the right.

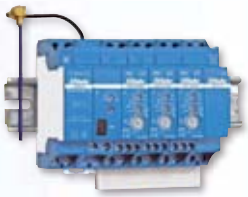
After removal of the module cover and opening of the locking slide, these units will be mount to the mounting rail at the top in one piece and locked at the bottom.
The busbar and actuator can then be connected. Only one 230V power supply is required on the power input or switch mode power supply unit.

The actuators are already registered in the FAM14 but the wireless room temperature controller(s) still need to be taught-in. Types FTR55H, FTR55D, FUTH55D and the thanos room control units LSR, SSR and LSRQ can be used.

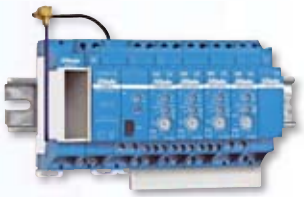
The housing for operating instructions is either already snapped on or snapped individually on the carrier rail.

Basic units for 6, 8, 10 and 12 zones are obtainable for 230V actuators.

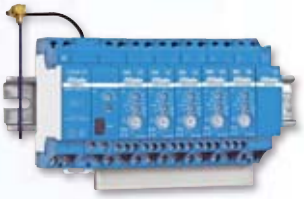
Basic units for 4 and 8 zones are obtainable for 24V actuators.



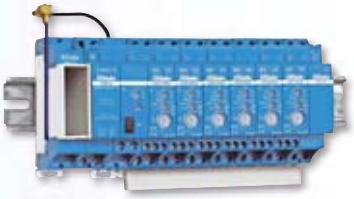
FME14/6Z-230V



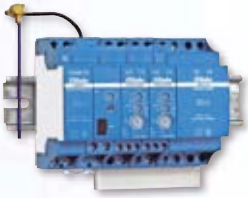
FME14/8Z-230V



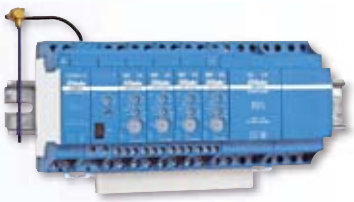
FME14/10Z-230V



FME14/12Z-230V



FME14/4Z-24V



FME14/8Z-24V

Wireless Basic Unit
6 Zones for 230 V Actuators FME14/6Z-230 V

FME14/6Z-230 V

Wireless basic unit 6 zones for 230 V actuators. Only 6 pitch units (PU) of 18 mm wide = 108 mm. Without cover, 58 mm deep, with cover, 63 mm deep. Standby loss only 1.3 watts.



This basic unit receives setpoints and actual values in wireless telegrams from one or several wireless room temperature controllers and controls the connected actuators accordingly.

The actuators are fitted with solid state relays (SSR) and are therefore subject to almost no wear. This is a highly important advantage for the service life of this basic unit since PWM control involves high switching frequencies which are often too much for normal PCBs to handle.

This basic unit has a modular design ex works and comprises a wireless antenna module FAM14 (2 PUs), 3 actuators FAE14SSR each with two zones (each 1 PU) and a 230 V power input STE14 (1 PU).

These components are mechanically connected and provided with plugged-in jumpers for the RS485 bus and the internal 12 V DC power supply. In addition, a bus terminating resistor is fitted to the FAM14 on the left and a dummy is fitted to an FAE14 on the right. A busbar SAS-4TE, a housing for operating instructions GBA14 and a jumper installation tool are also part of the scope of supply. The module cover (3 parts) is plugged.

Before mounting the base unit into the mounting rail of the heating circuit distributor the module cover is removed, the locking slides are opened (until it snaps into place) and after mounting closed again (until it slots into place). Only then can the busbars be inserted in the lower L and N terminals of the actuators, which are opened ex works, in the power input and secured by tightening the terminal screws. This means the 230 V connection is only required once at the top of the power input STE14.

One or two 230 V actuators can be connected to each of the 6 zone connections above the busbar.

After the room temperature controller(s) is/are taught-in as described in the operating instructions, the parts of the module cover can be fitted. Housing GBA14 is snapped onto the carrier rail to house the operating instructions.

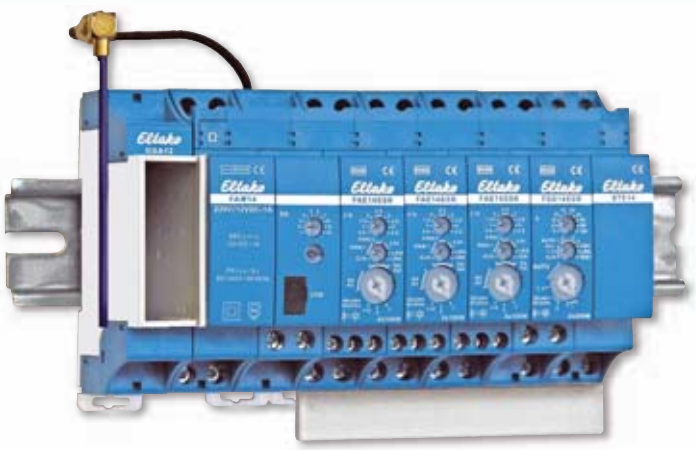
Types FTR55H, FTR55D, FUTH55D and the thanos room control units LSR, SSR and LSRQ can be used as wireless room temperature controllers.

FME14/6Z-230V	Basic unit 6 zones, 230 V	EAN 4010312314463	**297,50 €/pc.**

Recommended retail prices excluding VAT.

FME14/8Z-230 V

Wireless basic unit 8 zones for 230 V actuators. Only 8 pitch units (PU) of 18 mm wide = 144 mm. Without cover, 58 mm deep, with cover, 63 mm deep. Standby loss only 1.4 watts.



Wireless basic unit 8 zones for 230 V actuators. Only 8 pitch units (PU) of 18 mm wide = 144 mm. Without cover, 58 mm deep, with cover, 62 mm deep. Standby loss only 1.4 watts.

This basic unit receives setpoints and actual values in wireless telegrams from one or several wireless room temperature controllers and controls the connected actuators accordingly.

The actuators are fitted with solid state relays (SSR) and are therefore subject to almost no wear. This is a highly important advantage for the service life of this basic unit since PWM control involves high switching frequencies which are often too much for normal PCBs to handle.

This basic unit has a modular design ex works and comprises a wireless antenna module FAM14 (2 PUs), 4 actuators FAE14SSR each with two zones (each 1 PU), a 230 V power input STE14 (1 PU) and a housing to store operating instructions GBA14.

These components are mechanically connected and provided with plugged-in jumpers for the RS485 bus and the internal 12 V DC power supply. In addition, a bus terminating resistor is fitted to the FAM14 on the left and a dummy is fitted to an FAE14 on the right. A busbar SAS-4TE and a jumper installation tool are also part of the scope of supply. The module cover (4 parts) is plugged.

Before mounting the base unit into the mounting rail of the heating circuit distributor the module cover is removed, the locking slides are opened (until it snaps into place) and after mounting closed again (until it slots into place). Only then can the busbars be inserted in the lower L and N terminals of the actuators, which are opened ex works, in the power input and secured by tightening the terminal screws. This means that the 230 V connection is only required once at the top of the power input STE14.

One or two 230 V actuators can be connected to each of the 8 zone connections above the busbar.

After the room temperature controller(s) is/are taught-in as described in the operating instructions, the parts of the module cover can be fitted. The housing GBA14 is provided to store the operating instructions.

Types FTR55H, FTR55D, FUTH55D and the thanos room control units LSR, SSR and LSRQ can be used as wireless room temperature controllers.

FME14/8Z-230V	Basic unit 8 zones, 230 V	EAN 4010312314487	**355,00 €/pc.**

Recommended retail prices excluding VAT.

Wireless Basic Unit
10 Zones for 230 V Actuators FME14/10Z-230 V

FME14/10Z-230 V

Wireless basic unit 10 zones for 230 V actuators. Only 8 pitch units (PU) of 18 mm wide = 144 mm. Without cover, 58 mm deep, with cover, 63 mm deep. Standby loss only 1.5 watts



This basic unit receives setpoints and actual values in wireless telegrams from one or several wireless room temperature controllers and controls the connected actuators accordingly.

The actuators are fitted with solid state relays (SSR) and are therefore subject to almost no wear. This is a highly important advantage for the service life of this basic unit since PWM control involves high switching frequencies which are often too much for normal PCBs to handle.

This basic unit has a modular design ex works and comprises a wireless antenna module FAM14 (2 PUs), 5 actuators FAE14SSR each with two zones (each 1 PU) and a 230V power input STE14 (1 PU).

These components are mechanically connected and provided with plugged-in jumpers for the RS485 bus and the internal 12 V DC power supply. In addition, a bus terminating resistor is fitted to the FAM14 on the left and a dummy is fitted to an FAE14 on the right. A busbar SAS-6TE, a housing for operating instructions GBA14 and a jumper installation tool are also part of the scope of supply. The module cover (4 parts) is plugged.

Before mounting the base unit into the mounting rail of the heating circuit distributor the module cover is removed, the locking slides are opened (until it snaps into place) and after mounting closed again (until it slots into place). Only then can the busbars be inserted in the lower L and N terminals of the actuators, which are opened ex works, in the power input and secured by tightening the terminal screws. This means the 230V connection is only required once at the top of the power input STE14.

One or two 230 V actuators can be connected to each of the 10 zone connections above the busbar.

After the room temperature controller(s) is/are taught-in as described in the operating instructions, the parts of the module cover can be fitted. Housing GBA14 is snapped onto the carrier rail to house the operating instructions.

Types FTR55H, FTR55D, FUTH55D and the thanos room control units LSR, SSR and LSRQ can be used as wireless room temperature controllers.

FME14/10Z-230 V	Basic unit 10 zones, 230V	EAN 4010312314500	**413,20 €/pc.**

Recommended retail prices excluding VAT.

FME14/12Z-230 V

Wireless basic unit 12 zones for 230 V actuators. Only 10 pitch units (PU) of 18 mm wide = 180 mm. Without cover, 58 mm deep, with cover, 63 mm deep. Standby loss only 1.6 watts.



This basic unit receives setpoints and actual values in wireless telegrams from one or several wireless room temperature controllers and controls the connected actuators accordingly.

The actuators are fitted with solid state relays (SSR) and are therefore subject to almost no wear. This is a highly important advantage for the service life of this basic unit since PWM control involves high switching frequencies which are often too much for normal PCBs to handle.

This basic unit has a modular design ex works and comprises a wireless antenna module FAM14 (2 PUs), 6 actuators FAE14SSR each with two zones (each 1 PU), a 230 V power input STE14 (1 PU) and a housing to store operating instructions GBA14.

These components are mechanically connected and provided with plugged-in jumpers for the RS485 bus and the internal 12 V DC power supply. In addition, a bus terminating resistor is fitted to the FAM14 on the left and a dummy is fitted to an FAE14 on the right. A busbar SAS-7TE and a jumper installation tool are also part of the scope of supply. The module cover (5 parts) is plugged.

Before mounting the base unit into the mounting rail of the heating circuit distributor the module cover is removed, the locking slides are opened (until it snaps into place) and after mounting closed again (until it slots into place). Only then can the busbars be inserted in the lower L and N terminals of the actuators, which are opened ex works, in the power input and secured by tightening the terminal screws. This means the 230 V connection is only required once at the top of the power input STE14.

One or two 230 V actuators can be connected to each of the 12 zone connections above the busbar.

After the room temperature controller(s) is/are taught-in as described in the operating instructions, the parts of the module cover can be fitted. The housing GBA14 is provided to store the operating instructions.

Types FTR55H, FTR55D, FUTH55D and the thanos room control units LSR, SSR and LSRQ can be used as wireless room temperature controllers.

FME14/12Z-230 V	Basic unit 12 zones, 230 V	EAN 4010312314524	**470,70 €/pc.**

Recommended retail prices excluding VAT.

Wireless Basic Unit
4 Zones for 24 V Actuators FME14/4Z-24 V

FME14/4Z-24 V

Wireless basic unit 4 zones for 24 V actuators. Only 6 pitch units (PU) of 18 mm wide = 108 mm. Without cover, 58 mm deep, with cover, 63 mm deep. Standby loss only 1.4 watts.



This basic unit receives setpoints and actual values in wireless telegrams from one or several wireless room temperature controllers and controls the connected actuators accordingly.

The actuators are equipped with PCB relays (PCB) with floating contacts to switch 24 V actuators.

This basic unit has a modular design ex works and comprises a wireless antenna module FAM14 (2 PUs), 2 actuators FAE14LPR each with two zones (each 1 PU) and a switch mode power supply unit SNT14-24 V/24 W (2 PUs).

These components are mechanically connected and provided with plugged-in jumpers for the RS485 bus and the internal 12 V DC power supply. In addition, a bus terminating resistor is fitted to the FAM14 on the left and a dummy is fitted to an FAE14 on the right. A busbar SAS-4TE, a housing for operating instructions GBA14 and a jumper installation tool are also part of the scope of supply. The module cover (3 parts) is plugged.

Before mounting the base unit into the mounting rail of the heating circuit distributor the module cover is removed, the locking slides are opened (until it snaps into place) and after mounting closed again (until it slots into place). Only then can the busbars be inserted in the lower + and - terminals of the actuators, which are opened ex works, in the switch mode power supply unit and secured by tightening the terminal screws. This means the 230 V connection is only required once at the top of the switch mode power supply unit SNT14.

One or two 24 V actuators can be connected to each of the 4 zone connections above the busbar.

After the room temperature controller(s) is/are taught-in as described in the operating instructions, the parts of the module cover can be fitted. Housing GBA14 is snapped onto the carrier rail to house the operating instructions.

Types FTR55H, FTR55D, FUTH55D and the thanos room control units LSR, SSR and LSRQ can be used as wireless room temperature controllers.

FME14/4Z-24 V	Basic unit 4 zones, 24 V	EAN 4010312314470	**256,50 €/pc.**

Recommended retail prices excluding VAT.

FME14/8Z-24 V

Wireless basic unit 8 zones for 24 V actuators. Only 10 pitch units (PU) of 18 mm wide = 180 mm. Without cover, 58 mm deep, with cover, 63 mm deep. Standby loss only 1.8 watts.



This basic unit receives setpoints and actual values in wireless telegrams from one or several wireless room temperature controllers and controls the connected actuators accordingly.

The actuators are equipped with PCB relays (PCB) with floating contacts to switch 24 V actuators.

This basic unit has a modular design ex works and comprises a wireless antenna module FAM14 (2 PUs), 4 actuators FAE14LPR each with two zones (each 1 PU) and a switch mode power supply unit SNT14-24 V/48 W (4 PUs).

These components are mechanically connected and provided with plugged-in jumpers for the RS485 bus and the internal 12 V DC power supply. In addition, a bus terminating resistor is fitted to the FAM14 on the left and a dummy is fitted to an FAE14 on the right. A busbar SAS-6TE, a housing for operating instructions GBA14 and a jumper installation tool are also part of the scope of supply. The module cover (5 parts) is plugged.

Before mounting the base unit into the mounting rail of the heating circuit distributor the module cover is removed, the locking slides are opened (until it snaps into place) and after mounting closed again (until it slots into place). Only then can the busbars be inserted in the lower + and - terminals of the actuators, which are opened ex works, in the switch mode power supply unit and secured by tightening the terminal screws. This means the 230 V connection is only required once at the top of the switch mode power supply unit SNT14.

One or two 24 V actuators can be connected to each of the 8 zone connections above the busbar.

After the room temperature controller(s) is/are taught-in as described in the operating instructions, the parts of the module cover can be fitted. Housing GBA14 is snapped onto the carrier rail to house the operating instructions.

Types FTR55H, FTR55D, FUTH55D and the thanos room control units LSR, SSR and LSRQ can be used as wireless room temperature controllers.

FME14/8Z-24 V	Basic unit 8 zones, 24 V	EAN 4010312314548	**361,00 €/pc.**

Recommended retail prices excluding VAT.

FTR55H-



Wireless temperature controller with hand wheel for surface mounting or integration in the 55x55 mm and 63x63 mm switch system. Power supply with the integrated solar cell or a 12 V DC power supply unit. From production week 48/2012 also with batteries.

From 48/2012 the scope of supply includes a frame in Q-Design QRR, an attachment frame, a battery mounting plate and an adhesive foil. For mounting in frame with 55- or 63-neckline also an intermediate frame ZR in the same color and a mounting plate.

In the as-delivered condition, the energy storage is empty and needs to be charged before use. Either via the red/black 12 V DC power cable for about 10 minutes or via the solar cell in broad daylight for about 5 hours or from 48/2012 by inserting two pieces AAA batteries (not included in delivery) for about 1 minute.

In normal operation, the power supply is either through the cable with a 12 V DC power supply unit FSNT61-12 V/6 W in a flush-mounted box under the sensor or from 48/2012 with AAA batteries, supported by the solar cell, or only with the solar cell under normal ambient light, in a daily average of at least 200 lux. If only the solar cell is available, the energy storage must first be charged for several days with daylight.

If the connecting cable is not needed, it can be cut off. This means the sensor requires no installation depth behind the mounting plate. It can be screwed or affixed to any flat surface. An adhesive foil is supplied.

We recommend sheet metal countersink screws 2.9x25 mm, DIN 7982 C, for screw connections. Both with rawl plugs 5x25mm and with 55mm switch boxes. See Accessories on page Z-6.

To teach-in in an actuator in teach-in mode, hold the supplied blue magnet or any other magnet at hand below the point on the side panel of the sensor marked by ■. This sends a teach-in telegram. The slide switch should be on normal mode then.

The temperature controller sends a message into the Eltako wireless network within 100 seconds when there is a change in the actual or reference temperature of min 0.3°C. If there is no change, a status report is sent every 20 minutes.

Measurement accuracy is approx. 1°C.

The day reference temperature that ranges from +12°C to +28°C is changed using the hand wheel

A night reduction can be activated by the slide switch. This makes the night reference temperature 4°C lower than the day reference temperature.

The **slide switch** is for function selection.
☼ = normal mode (day).
0 = temperature control off; the actual temperature continues to be sent, however.
☾ = night reduction active.

The wireless sensor can be taught-in into the following actuators and the wireless visualization and control software:
F2L61, F2L70, F4H12, F4L12, FHK12, FHK61, FHK70, FME14

FTR55H-ws	Temperature controller with hand wheel white	EAN 4010312311189	**90,80 €/pc.**
FTR55H-rw	Temperature controller with hand wheel pure white	EAN 4010312311929	**90,80 €/pc.**
FTR55H-an	Temperature controller with hand wheel anthracite	EAN 4010312311950	**90,80 €/pc.**
FTR55H-sz	Temperature controller with hand wheel black	EAN 4010312311936	**90,80 €/pc.**
FTR55H-wg*	Temperature controller with hand wheel pure white glossy	EAN 4010312311943	**90,80 €/pc.**
FTR55H-al	Temperature controller with hand wheel coated/aluminium paint	EAN 4010312311981	**99,60 €/pc.**

* The bottom of the housing is matt.

Recommended retail prices excluding VAT.

FTR55D-



Wireless temperature controller with display for surface mounting or integration in the 55x55 mm and 63x63 mm switch system. Power supply with the integrated solar cell or a 12 V DC power supply unit. From production week 49/2012 also with batteries.

From 49/2012 the scope of supply includes a frame in Q-Design QRR, an attachment frame, a battery mounting plate and an adhesive foil. For mounting in frame with 55- or 63-neckline also an intermediate frame ZR and ZRF in the same color and a mounting plate.

In the as-delivered condition, the energy storage is empty and needs to be charged before use. Either via the red/black 12 V DC power cable for about 5 minutes or via the solar cell in broad daylight for about 5 hours or from 49/2012 by inserting two pieces AAA batteries (not included in delivery) for about 5 minutes.

In normal operation, the power supply is either through the cable with a 12 V DC power supply unit FSNT61-12 V/6 W in a flush-mounted box under the sensor or from 49/2012 with AAA batteries, supported by the solar cell, or only with the solar cell under normal ambient light, in a daily average of at least 200 lux. If only the solar cell is available, the energy storage must first be charged for several days with daylight.

If the connecting cable is not needed, it can be cut off. This means the sensor requires no installation depth behind the mounting plate. It can be screwed or affixed to any flat surface. An adhesive foil is supplied.

We recommend sheet metal countersunk screws 2.9x25 mm, DIN 7982 C, for screw connections. Both with rawl plugs 5x25 mm and with 55 mm switch boxes. See Accessories on page Z-6.

If the ambient brightness is insufficient, power is supplied by the connecting cable from a switch mode power supply unit FSNT61-12 V/6 W fitted below it in a switch box.

The complete module can be removed from the frame so that it can be screwed on.

The sensor sends a message every 100 seconds to the Eltako wireless network at an actual temperature change of minimum 0.3°C. The bistable display is updated.
A change in reference temperature is sent immediately. The display is updated.
If there is no change, a status report is sent every 20 minutes.

Measurement accuracy is approx. 1°C.

The normal display consists of a large ambient temperature display ranging from 0°C to +40°C. Above the day reference temperature is displayed in small digits preceded by 'd' (= day).

Adjust the day reference temperature from +8°C to +40°C in steps of 0.5°C by pressing the ▲ and ▼ buttons. Several key operations are accumulated. The new reference temperature appears in the display in large digits after approx. 1 second. After a further approx. 4 seconds, the display returns to normal mode.

Night reduction can also be activated and adjusted by pressing the ▲ and ▼ keys. Activation is by pressing both keys simultaneously and briefly. The top of the display shows the night reference temperature in small digits preceded by 'n' (= night). The presetting is a value which is 4°C lower than the day reference temperature. Terminate the night reduction function by briefly pressing the two keys simultaneously.

The temperature reduction value can be changed in steps of 1°C by pressing the ▲ and ▼ keys as long as the night reduction function is activated. Here too, several key operations are accumulated. The new temperature reduction value is shown in the display in large digits after approx. 1 second. After a further approx. 4 seconds, the display returns to night reduction mode. Terminate the night reduction function by briefly pressing the two keys simultaneously.

The wireless sensor can be taught-in into the following actuators and the wireless visualization and control software:
F2L61, F2L70, F4H12, F4L12, FHK12/14, FHK61, FHK70

FTR55D-ws	Temperature controller with display white	EAN 4010312302361	**145,30 €/pc.**
FTR55D-rw	Temperature controller with display pure white	EAN 4010312302385	**145,30 €/pc.**
FTR55D-an	Temperature controller with display anthracite	EAN 4010312302439	**145,30 €/pc.**
FTR55D-sz	Temperature controller with display black	EAN 4010312302408	**145,30 €/pc.**
FTR55D-wg*	Temperature controller with display pure white glossy	EAN 4010312302415	**145,30 €/pc.**
FTR55D-al	Temperature controller with display coated/aluminium paint	EAN 4010312305393	**154,10 €/pc.**

* The bottom of the housing is matt.

Recommended retail prices excluding VAT.

FUTH55D-

min



Wireless clock thermometer and -hygrostat with display for individual fitting and mounting in 55x55 mm or 63x63 mm switch system. Only 0.2 watt standby loss. With adjustable day and night reference temperatures and relative humidity. Preset ready to operate.

The scope of supply includes a frame R, an intermediate frame ZR in the same colour and a mounting plate. In addition, an intermediate frame ZRF in the same colour is supplied for installation in an existing frame R1F, R2F or R3F for flat pushbuttons.

Power supply 12 V DC. A 20 cm long black/blue connecting wire is routed to the rear.

Before screwing on, remove the frame and intermediate frame from the mounting plate. To do this, press out the catches on the mounting plate. Then screw on the mounting plate - with the catches at the top and bottom -, snap on the frame and the intermediate frame, and connect and snap on the clock thermostat-hygrostat.

We recommend sheet metal countersunk screws 2.9x25 mm, DIN 7982 C, for screw connections on 55 mm switch boxes. See Accessories on page Z-6.

Up to 60 timer memory locations are freely assigned to the channels. With date and automatic summer/winter time changeover. Ca. 14 days power reserve without battery. With slide switch for normal operation, night mode and control out.

The wireless clock thermostat sends a message to the Eltako wireless network every 50 seconds when there is an actual temperature change of minimum 0.3°C or a change in humidity of 5%. A change in reference temperature or relative humidity is sent immediately. If there is no change, a status report is sent every 10 minutes. **Queries of a wireless small actuator FKS which are received approximately every 10 minutes will be answered immediately. Settings are made with the buttons MODE and SET and can be locked.**

A complete switching programme is preset and can be very easily changed: day reference temperature 22°C Monday to Thursday from 6:00 to 22:00, Friday from 6:00 to 23:00, Saturday from 7:00 to 23:00 and Sunday from 7:00 to 22:00. The preset night reference temperature is 18°C.

Set language: Every time the power supply is applied, press SET within 10 seconds to set the language german or english and press MODE to confirm. The **normal display** then appears: Weekday, date, time, actual temperature from 0°C to +40°C to one decimal point and relative humidity. Through self-heating, the correct actual temperature will only be displayed 30 minutes after connecting of the supply voltage. To adapt the sensor to the ambient conditions, the internal sensor can be adjusted to the actual room temperature and humidity. If the settings are locked, the reference temperature *set-temp.* can be displayed and changed here from +8°C to +40°C in steps of 0.5°C by pressing MODE followed by SET.

Rapid scroll: In the following settings, the numerals scroll rapidly when you press and hold down Enter. Release then press and hold down to change the scroll direction.

Set clock: Press MODE then press SET to search for the ***clock*** **function.** Press MODE to set. Press SET to select the hour and press MODE to confirm. Proceed in the same way to set the minute.

Set date: Press MODE then press SET to search for the ***date*** **function.** Press MODE to select. Press SET to select the year and press MODE to confirm. Proceed in the same way to set the month and the day. The last setting in the sequence the weekday is following. Press SET to set it.

Summer/winter time changeover: Press MODE then press SET to search for the ***automatic summer/wintertime*** **function** and press MODE to select. Now press SET to switch between *activ* and *inactiv.* If you select *activ,* changeover is automatic.

Teaching-in actuators according to the operating manual. Different actuators as well as small actuators FKS (kieback&peter, type MD15-FtL-HE) can be taught-in. Teaching in window/door contacts FTK and Hoppe window handles can be taught-in for FKS in this clock thermostat FUTH55D, otherwise in the actuators mentioned.

If window/door contacts FTK or Hoppe window handles were taught-in, the setting is lowered to frost protection temperature 8°C as long as one or several windows are open.

Lock settings: Briefly press MODE and SET together and at *lock,* press SET to lock. This is displayed by an arrow next to the lock symbol.

Unlock settings: Press MODE and SET together for 2 seconds and at *unlock* press SET to unlock.

The wireless sensor can be taught-in into the following actuators and the wireless visualization and control software:
F2L61, F2L70, F4H12, F4L12, FHK12/14, F4HK14, FHK61, FHK70, FME14

FUTH55D-ws	Clock thermometer with display white	EAN 4010312314272	**122,30 €/pc.**
FUTH55D-rw	Clock thermometer with display pure white	EAN 4010312314296	**122,30 €/pc.**
FUTH55D-an	Clock thermometer with display anthracite	EAN 4010312314326	**122,30 €/pc.**
FUTH55D-sz	Clock thermometer with display black	EAN 4010312314302	**122,30 €/pc.**
FUTH55D-wg*	Clock thermometer with display pure white glossy	EAN 4010312314319	**122,30 €/pc.**
FUTH55D-al	Clock thermometer with display coated/aluminium paint	EAN 4010312314289	**134,70 €/pc.**

* The bottom of the housing is matt.

Recommended retail prices excluding VAT.

thanos L SR and S SR



thanos L SR



thanos S SR

Wireless multifunction room control unit thermokon for fitting on a flush mounted box. Standby loss only 4 watts.

The multifunction room control unit with a 3.5" touch display detects the temperature and humidity at the place of installation. It transmits these parameters to the wireless network as well as key commands on the touch display.

The aluminium function brace contains a further touch sensor which is parameterisable using a wireless function.

The L types also have an additional 8 touch buttons which are user-definable.

A labelling foil can be printed and inserted here.

The front panel is made of glass. The housing behind it is made of ABS plastic, white or black.

The S types are 126 mm and the L types 197 mm high. They are 82 mm deep and 18.5 mm deep to the wall. The connection part projects 34 mm into the flush mounted box.

The 24 V DC source is a switch mode power supply unit FSNT61-24 V/6 W in a deep flush mounted box behind the room control unit or in a second flush mounted box.

The actual temperature is measured in a range from 0 to 50°C, ± 0.5 K. Relative humidity is measured in a range from

0 to 100% rh or ± 3% rh in the range 20 to 80% rh.

The reference temperature is directly set on the display. Startup and parameterisation are carried out using the thanos software which is downloadable from thermokon.de.

The wireless sensor can be taught-in into all actuators and the wireless visualization and control software.

thanos L SR white	Multifunction room control unit white	EAN 4010312303657	**533,- €/pc.**
thanos L SR black	Multifunction room control unit black	EAN 4010312303640	**533,- €/pc.**
thanos S SR white	Multifunction room control unit white	EAN 4010312313633	**499,- €/pc.**
thanos S SR black	Multifunction room control unit black	EAN 4010312303640	**499,- €/pc.**

Recommended retail prices excluding VAT.

thanos L SRQ

Wireless multifunction room control unit thermokon, horizontal, for fitting to a flush mounted box. Standby loss only 4 watts.

The multifunction room control unit with a 3.5" touch display detects the temperature and humidity at the place of installation. It transmits these parameters to the wireless network as well as key commands on the touch display.

The aluminium function brace contains a further touch sensor which is parameterisable using a wireless function.

In addition there are another 8 touch buttons which are user definable.

A labelling foil can be printed and inserted here.

The front panel is made of glass. The housing behind it is made of ABS plastic, white or black.

It is 82 mm high, 197 mm wide and 18.5 mm deep to the wall.

the connection part projects 34 mm into the flush mounted box.

The 24 V DC source is a switch mode power supply unit FSNT61-24 V/6 W in a deep flush mounted box behind the room control unit or in a second flush mounted box.

The actual temperature is measured in a range from 0 to 50°C, ± 0.5 K. Relative humidity is measured in a range from

0 to 100% rh or ± 3% rh in the range 20 to 80% rh.

The reference temperature is directly set on the display. Startup and parameterisation are carried out using the thanos software which is downloadable from thermokon.de.



The wireless sensor can be taught-in into all actuators and the wireless visualization and control software.

thanos L SRQ white	Multifunction room control unit, horizontal, white	EAN 4010312313671	**533,- €/pc.**
thanos L SRQ black	Multifunction room control unit, horizontal, black	EAN 4010312313688	**533,- €/pc.**

Recommended retail prices excluding VAT.

TSA02NC-230V



Thermal actuator AFRISO-230V/2W, normally closed contact (NC). Electrical control of hot water valves.

Actuators convert the electrical signal of room or clock thermostats in one valve stroke and control the set temperature. Connected directly to the valve or distributor top part by connecting cable and union nut.

IP54. Power supply 230V ±10%.

I max 200mA, -5/+60°C.

Stroke > 3mm in 3-6 minutes. F ~ 90 N.

TSA02NC-230V	Actuator NC, 230V	EAN 4010312314425	**22,50 €/pc.**

TSA02NC-24V



Thermal actuator AFRISO-24V/2W, normally closed contact (NC). Electrical control of hot water valves.

Actuators convert the electrical signal of room or clock thermostats in a valve stroke and control the set temperature. Connected directly to the valve or distributor top part by connecting cable and union nut.

IP54. Power supply 24V ±10%.

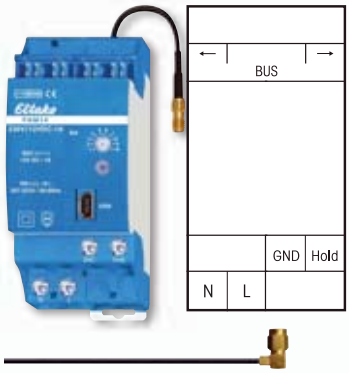
I max 230mA, -5/+60°C.

Stroke > 3mm in 3-6 minutes. F ~ 90 N.

TSA02NC-24V	Actuator NC, 24V	EAN 4010312314432	**22,50 €/pc.**

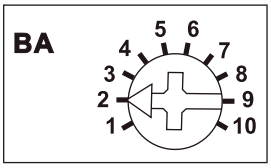
Recommended retail prices excluding VAT.

FAM14



The enclosed small antenna can be replaced with a wireless antenna FA250 with magnetic base and cable.

Mode switch



Standard setting ex works.

Wireless antenna module for the Eltako RS485 bus with exchangeable antenna. With integrated power supply unit 12 V DC-1 A. Only 1 watt standby loss. If required, a wireless antenna FA250 or FA200 can be connected.

Modular device for DIN-EN 60715 TH35 rail mounting.
2 module = 36 mm wide, 58 mm deep.
Supply voltage 230 V.

The wireless antenna module FAM14 receives and tests all signals from wireless transmitters and repeaters within the receiving range. These are transmitted via an RS485 interface to RS485 bus switching actuators connected in series:

Up to 126 channels can be connected to the Eltako RS485 bus. Bus cross wiring and power supply with jumper.

If the cables of the RS485 bus are longer than 2 m, the attached second terminating resistor has to be pinned **to the last actuator.**

Mini USB to connect to a PC, to create an equipment list, to configurate the actuators using the computer tool PCT14 and for data backup. A legalisation code to download the PCT14 from the Eltako website www.eltako.de is supplied with the FAM14.

Gateways FGW14 will be connected to the terminals HOLD and GND when they connect a PC with a RS232 bus and/or up to 3 wireless receiver modules FEM with a sub-bus RS485.

The operating mode rotary switch BA can set 10 different operating modes as described in the operating instructions.

The upper LED displays all perceived wireless commands in the reception area by short flickering.

The bottom LED lights up green if a connection from the PC tool PCT14 to the FAM14 was created. When reading or writing date the LED flashes green. The green LED goes out if the connection from the PC tool PCT14 to the FAM14 was terminated.

FAM14	Wireless antenna module	EAN 4010312313695	**97,80 €/pc.**

FA250 and FA200



Wireless antennas with magnetic base

The small enclosed wireless antenna of the wireless antenna modules FAM14 can be replaced by a larger antenna to feed wireless signals into metallic switching cabinets. It is mounted on the magnetic base externally and the cable is routed inside the cabinet to the FAM14.

FA250	Wireless antenna with 250 cm cable	EAN 4010312300244	**19,90 €/pc.**
FA200	High-performance receive antenna with 200 cm cable	EAN 4010312303306	**64,70 €/pc.**

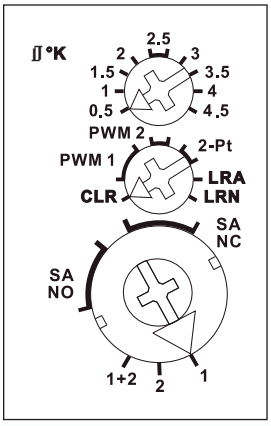
Recommended retail prices excluding VAT.

FAE14SSR





Function rotary switches



Standard setting ex works.

Noiseless 2-channel single room control, 400 W. 2 solid state relays not potential free. Bidirectional. Only 0.1 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting. 1 module = 18 mm wide, 58 mm deep.

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.

If both relays are switched on, a power of 0.4 watts is required.

The rated switching capacity of 400 W is applied for one contact and also for the sum of the two contacts.

The channels can be taught-in together at the same time. Use the lower rotary switch in positions 1+2. Alternatively, they can be taught-in separately in position 1 or 2.

First teach in the sensors **using the rotary switches.** In normal mode, set the operating mode using the middle rotary switch.
PWM 1 for valves with thermoelectric actuator, T = 4 minutes.
PWM 2 for valves with motor-driven actuator, T = 15 minutes.
2-Pt for 2-point control.

PWM control mode: The upper rotary switch sets the required temperature difference at which the device is switched on at 100%.
When the actual temperature >= reference temperature, the device is switched off.
When the actual temperature <= (reference temperature – hysteresis), the device is switched on at 100%.
When the actual temperature is between (reference temperature – hysteresis) and the reference temperature, the device is switched on and off by a PWM in steps of 10% depending on the temperature difference. The lower the temperature difference, the shorter the switch-on time. As a result of the settability of the 100% value, the PWM can be adapted to the radiator size and inertia. The signs are the opposite in cooling mode.

In heating mode, the **frost protection function** is always enabled. As soon as the actual temperature drops below 8°C, the temperature is controlled in the selected operating mode to 8°C.

Two-point control mode: The upper rotary switch sets the required difference between the switch-on and switch-off temperatures.
When the actual temperature >= reference temperature, the device is switched off.
When the actual temperature <= (reference temperature – hysteresis), the device is switched on.
The signs are the opposite in cooling mode.

The type of connected actuators will be selected with the **lower rotary switch. SA NC** for actuator NC (normally closed) or **SA NO** for actuator NO (normally open).

When **wireless window/door contacts FTK or Hoppe window handles** are taught-in, they are OR linked. If one or more windows are open, the output remains off. In heating mode, however, the frost protection remains enabled.

When **motion detectors FBH** are taught-in, they are AND linked. If all FBHs signal 'No motion', the device switches to standby setback mode: In heating mode, the reference temperature is set back by 2°; in cooling mode, it is raised by 2°. As soon as a motion detector signals movement again, the device is switched to normal mode.

When the **FBHs and wireless pushbuttons** are taught-in, the last telegram received is always the one that is valid. An FBH therefore switches off a setback mode selected by means of the wireless pushbutton when motion is detected.

When a **wireless pushbutton** is taught-in, the 4 keys are assigned the following functions: Top right: Normal mode (can also be enabled by timer with the function 'ON'). Bottom right: Night setback mode by 4°; in cooling mode: increase by 4° (can also be enabled by timer with the function 'OFF'). Top left: Standby setback mode by 2°, in cooling mode, increase by 2°. Bottom left: Off (in heating mode, frost protection enabled; in cooling mode permanent off).

If no telegram is received from the temperature sensor for longer than 60 minutes, the device switches to **fault mode:** In heating function, the device switches on for 2 (7.5) minutes and off for 2 (7.5) minutes. Since no other actual temperature is known, it is not possible to switch to frost protection here. In cooling function, the output remains off. In both cases the LED on the device flashes at a constant low rate. When telegrams are received again, control continues in the selected mode and the LED goes out.

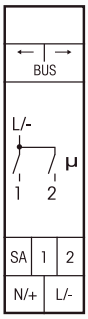
The LED below the upper function rotary switch performs during the teach-in process according to the operating instructions. It shows control commands by short flickering during operation.

FAE14SSR	RS485 bus actuator with SR	EAN 4010312314173	**57,50 €/pc.**

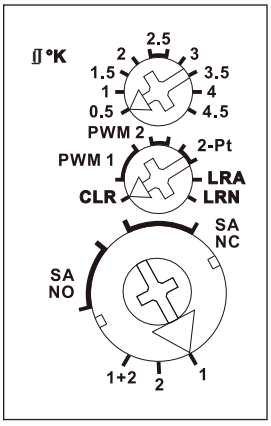
Recommended retail prices excluding VAT.

FAE14LPR





Function rotary switches



Standard setting ex works.

2-channel single room control, 4 A/250 V, potential free. Bidirectional. Only 0.1 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting. 1 module = 18 mm wide, 58 mm deep.

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.

If both relays are switched on, a power of 0.4 watts is required.

The channels can be taught-in together at the same time. Use the lower rotary switch in positions 1+2. Alternatively, they can be taught-in separately in position 1 or 2.

First teach in the sensors **using the rotary switches.** In normal mode, set the operating mode using the middle rotary switch.

PWM 1 for valves with thermoelectric actuator, T = 4 minutes.

PWM 2 for valves with motor-driven actuator, T = 15 minutes.

2-Pt for 2-point control.

PWM control mode: The upper rotary switch sets the required temperature difference at which the device is switched on at 100%.

When the actual temperature >= reference temperature, the device is switched off.

When the actual temperature <= (reference temperature – hysteresis), the device is switched on at 100%.

When the actual temperature is between (reference temperature – hysteresis) and the reference temperature, the device is switched on and off by a PWM in steps of 10% depending on the temperature difference.

The lower the temperature difference, the shorter the switch-on time. As a result of the settability of the 100% value, the PWM can be adapted to the radiator size and inertia.

The signs are the opposite in cooling mode.

In heating mode, the **frost protection function** is always enabled. As soon as the actual temperature drops below 8°C, the temperature is controlled in the selected operating mode to 8°C.

Two-point control mode: The upper rotary switch sets the required difference between the switch-on and switch-off temperatures.

When the actual temperature >= reference temperature, the device is switched off.

When the actual temperature <= (reference temperature – hysteresis), the device is switched on.

The signs are the opposite in cooling mode.

The type of connected actuators will be selected **with the lower rotary switch. SA NC** for actuator NC (normally closed) or **SA NO** for actuator NO (normally open).

When **wireless window/door contacts FTK or Hoppe window handles** are taught-in, they are OR linked. If one or more windows are open, the output remains off. In heating mode, however, the frost protection remains enabled.

When **motion detectors FBH** are taught-in, they are AND linked. If all FBHs signal 'No motion', the device switches to standby setback mode: In heating mode, the reference temperature is set back by 2°; in cooling mode, it is raised by 2°. As soon as a motion detector signals movement again, the device is switched to normal mode.

When the **FBHs and wireless pushbuttons** are taught-in, the last telegram received is always the one that is valid. An FBH therefore switches off a setback mode selected by means of the wireless pushbutton when motion is detected.

When a **wireless pushbutton** is taught-in, the 4 keys are assigned the following functions: Top right: Normal mode (can also be enabled by timer with the function 'ON'). Bottom right: Night setback mode by 4°; in cooling mode: increase by 4° (can also be enabled by timer with the function 'OFF'). Top left: Standby setback mode by 2°, in cooling mode, increase by 2°. Bottom left: Off (in heating mode, frost protection enabled; in cooling mode permanent off).

If no telegram is received from the temperature sensor for longer than 60 minutes, the device switches to **fault mode:** In heating function, the device switches on for 2 (7.5) minutes and off for 2 (7.5) minutes. Since no other actual temperature is known, it is not possible to switch to frost protection here. In cooling function, the output remains off. In both cases the LED on the device flashes at a constant low rate. When telegrams are received again, control continues in the selected mode and the LED goes out.

The LED below the upper function rotary switch performs during the teach-in process according to the operating instructions. It shows control commands by short flickering during operation.

FAE14LPR	RS485 bus actuator with LPR	EAN 4010312314234	**51,90 €/pc.**

Recommended retail prices excluding VAT.

STE14





Power input for 230 V actuators.

Modular device for DIN-EN 60715 TH35 rail mounting.
1 module = 18 mm wide, 58 mm deep.

Cross wiring bus and power supply via jumper.

The power input STE14 is connected to the 230 V power supply of the actuators on the upper input side. A busbar SAS- is plugged and screwed to the lower output side. The SAS-4TE is provided for a STE14 and 3 actuators FAE14SSR or FAE14LPR (6 zones). Correspondingly the versions -5TE, -6TE and -7TE are for more actuators and zones. The STE14 can be mounted left, right or between the actuators.

A connection with the bus and the 12V power supply does not take place. They will only be looped with the jumper.

STE14	Power input	EAN 4010312314029	**16,50 €/pc.**

SAS-



Bus bars for cross-connecting power input STE14 or switch mode power supply unit FSNT14 to actuators FAE14SSR and FAE14LPR.

SAS-4TE	Bus bars 4PU	EAN 4010312314036	**9,20 €/pc.**
SAS-5TE	Bus bars 5PU	EAN 4010312314043	**9,20 €/pc.**
SAS-6TE	Bus bars 6PU	EAN 4010312314050	**9,90 €/pc.**
SAS-7TE	Bus bars 7PU	EAN 4010312314067	**9,90 €/pc.**

Recommended retail prices excluding VAT.

SNT14-24V/12W

min





Power input for 24V actuators. Rated capacity 12W.
Standby loss 0.2 watt only.

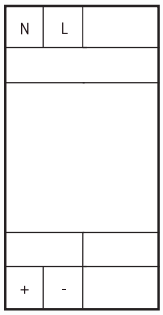
Modular devices for DIN 60715 TH35 rail mounting. 1 module = 18mm wide, 58mm deep.
Input voltage 230V (-20% up to +10%). Efficiency 86%.
Stabilised output voltage ±1%, low residual ripple.
Short-circuit proof.
Overload protection and over-temperature switch-off by means of swichting off with automatic switching-on after fault clearance (autorecovery function).
The 24V DC output of these switch mode power supply units is located underneath to create a rapid link to the actuators FAE14LPR for 24V DC actuators via the busbar SAS.
The SNT14 is always mounted on the far right next to the last actuator FAE14LPR since no jumper is provided.

SNT14-24V/12W	Switching power supply units 24V DC/12W	EAN 4010312314395	**35,50 €/pc.**

SNT14-24V/24W

min





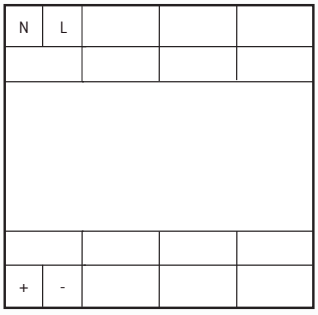
Power input for 24V actuators. Rated capacity 24W.
Standby loss 0.2 watt only.

Modular devices for DIN 60715 TH35 rail mounting. 2 modules = 36mm wide, 58mm deep.
Input voltage 230V (-20% up to +10%). Efficiency 87%.
Stabilised output voltage ±1%, low residual ripple.
Short-circuit proof.
Overload protection and over-temperature switch-off by means of swichting off with automatic switching-on after fault clearance (autorecovery function).
The 24V DC output of these switch mode power supply units is located underneath to create a rapid link to the actuators FAE14LPR for 24V DC actuators via the busbar SAS.
The SNT14 is always mounted on the far right next to the last actuator FAE14LPR since no jumper is provided.

SNT14-24V/24W	Switching power supply units 24V DC/24W	EAN 4010312314401	**44,90 €/pc.**

SNT14-24V/48W

min



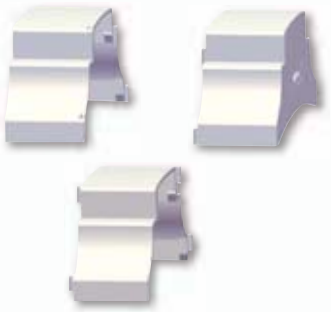
Power input for 24V actuators. Rated capacity 48W.
Standby loss 0.4 watt only.

Modular devices for DIN 60715 TH35 rail mounting. 4 modules = 72mm wide, 58mm deep.
Input voltage 230V (-20% up to +10%). Efficiency 86%.
Stabilised output voltage ±1%, low residual ripple.
Short-circuit proof.
Overload protection and over-temperature switch-off by means of swichting off with automatic switching-on after fault clearance (autorecovery function).
The 24V DC output of these switch mode power supply units is located underneath to create a rapid link to the actuators FAE14LPR for 24V DC actuators via the busbar SAS.
The SNT14 is always mounted on the far right next to the last actuator FAE14LPR since no jumper is provided.

SNT14-24V/48W	Switching power supply units 24V DC/48W	EAN 4010312314418	**66,50 €/pc.**

Recommended retail prices excluding VAT.

MA14-lr und MA14-2m



Module covers on the left and right each 2 pitch units wide and module cover centre pieces each 2 pitch units wide.

These module covers are fitted as required to cover single room control units. The two left and right module covers supplied in MA14-lr are identical and are fitted next to each other rotated through 180°. They then cover 4 pitch units. The two module cover centre pieces supplied in MA14-2m are identical and are each 2 pitch units wide. They can therefore cover 2 or 4 additional pitch units.

Modular units to be covered are safe to touch according to DIN EN 50274. To increase safety and for visual reasons, the module covers should always be fitted if the control units are located in heating circuit distributors.

These parts are included in the scope of supply of basic unit FME14.

MA14-lr	Module cover left and right	EAN 4010312314449	**1,00 €/pc.**
MA14-2m	Module cover 2 centre pieces	EAN 4010312314456	**1,00 €/pc.**

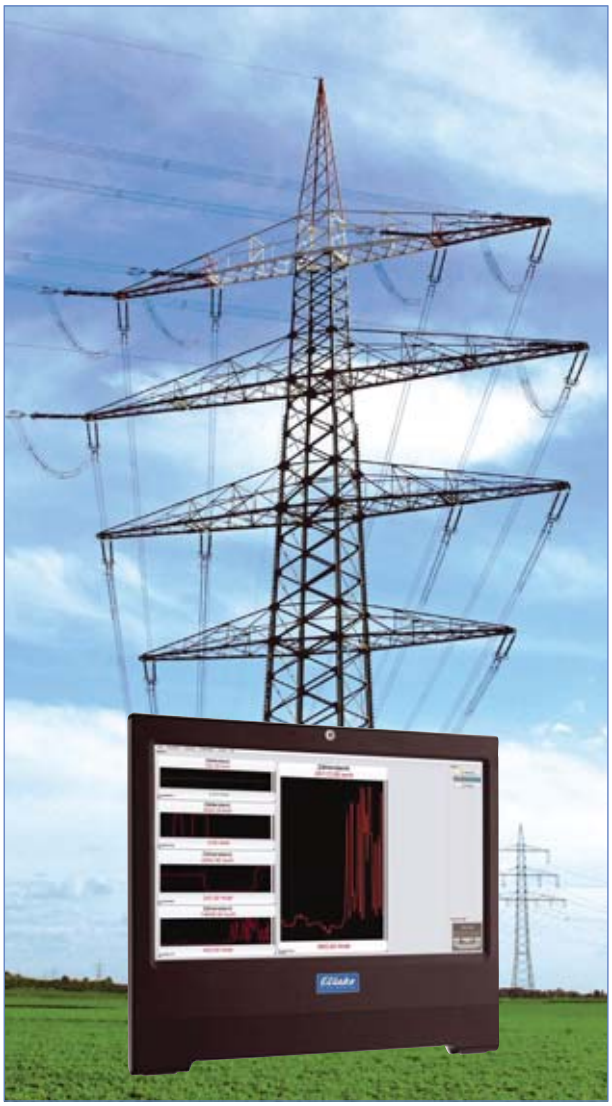
Housing for operating instructions GBA14



Modular device for DIN-EN 60715 TH35 rail mounting.
1 module = 18 mm wide, 55 mm deep.
Housing without front panel to insert operating instructions.
The scope of supply of basic unit FME14 includes a housing for operating instructions GBA14.

GBA14	Housing for operating instructions	EAN 4010312906422	**1,50 €/pc.**

Recommended retail prices excluding VAT.



Smart Metering with the Eltako Wireless Building	7-0
Wireless energy consumption indicator FEA55LED with LED	7-1
NEW Wireless energy consumption indicator FEA55D with display	7-2
NEW Wireless Visualisation and Control Software GFVS-Energy	7-3
Energy consumption indicator EVA12	7-4
NEW Wireless three-phase energy meter DSZ14DRS-3x65A with MID	7-5
NEW Wireless single-phase energy meter transmitter module FWZ14	7-5
NEW Wireless CT operated three-phase energy meter DSZ14WDRS-3x5A with MID	7-6
Wireless single-phase energy meter transmitter module FWZ12-16A and FWZ12-65A	7-7
Wireless single-phase energy meter transmitter module FWZ61-16A and impulse switch with integr. relay function with active power measurement FSR70W-16A	7-8
Wireless actuator with current measurement FSR61VA-10A	7-9
NEW Socket switching actuator with current measurement FSVA-230V	7-9
Selection table single-phase energy meters WSZ and three-phase energy meters DSZ	7-10

You will find the product descriptions of single-phase energy meter WSZ and three-phase energy meter DSZ in the Catalogue "Switchgear, power supply units and electronic energy meters".

Observing power consumption is a recognised way to sharpen awareness about energy consumption and to realise how consumers are driving up costs at what time of the day. If automatic countermeasures are taken – e.g. appliances with high consumption are only switched on at low tariff periods – this knowledge and the corresponding efforts take on a practical ecological and economic purpose.

Eltako Wireless Building offers Smart Metering in several stages. From a low-cost solution in the home up to a professional solution in large buildings for genuine energy management.

Stage 1 in a home

A single-phase energy meter transmitter module FWZ in a circuit measures power consumption and sends wireless telegrams to the Eltako wireless network. We manufacture transmitter modules such as FWZ12 rail mounted devices for central installation up to 16A and 65A, or the FWZ61 build-in device for decentralised installation up to 16A.

An energy consumption indicator FEA55LED receives these wireless telegrams and displays realtime consumption and normal rate/off-peak by LEDs.



Stage 2 in a home

Consumption measurement as for stage 1. A digital energy consumption indicator FEA55D with display and a memory for consumption parameters receives the wireless telegrams. Realtime consumption and accumulated consumption are displayed constantly. The consumption over the past hours, days, months and years is also retrievable.



Stage 3 in a home or a building

a) Power consumption is queried directly from the energy meters via their S0 interfaces and sent over the Eltako wireless network by an energy meter transmitter module FSS12. An integrated load shedding relay can switch off consumers if a preset consumption is exceeded.

b) When Series 14 is installed centrally, the three-phase electricity meters DSZ14DRS-3x65A and DSZ14WDRS-3x5A with MID as well as the single-phase energy meter transmitter module FWZ14-65A can be directly connected to the RS485 bus.

Energy consumption in stages 1 and 2 can be indicated by a FEA55 or by means of the Wireless Visualisation and Control Software GFVS 3.0 of the GFVS-Safe or the GFVS-Energy.



Stage 4 in all residential, office and commercial buildings

When Series 14 is installed centrally, the three-phase electricity meters DSZ14DRS-3x65A and DSZ14WDRS-3x5A with MID as well as the single-phase energy meter transmitter module FWZ14-65A can be directly connected to the RS485 bus.

The data is displayed, evaluated and stored using the Wireless Building Visualisation and Control Software GFVS 3.0 of the server GFVS-Safe. This can also be performed by energy consumption displays FEA55 in individual homes, departments or machine locations.



Smart Metering is so cost-effective and incurs no follow-on costs:
The Energy Consumption Indicator EVA12 (page 7-4) displays the current active current consumption in the control cabinet or distributor. They save the consumption figures in non-volatile memories that are viewable at any time. The Wireless Energy Consumption Indicators FEA55LED and FEA55D show directly the wireless readings of an Energy Meter Transmitter Module FSS12 (pages 7-3), FWZ12 (pages 7-7) or FWZ61 (pages 7-8). The Energy Consumption Indicator with Display FEA55D saves the values in the same way as the EVA12.

Only the Wireless Building Visualisation and Control Software GFVS 3.0 on a GFVS-Safe can evaluate several meters. GFVS-Energy can evaluate up to 100 meters and GFVS 3.0 up to 250 meters.

FEA55LED-



Wirless energy consumption indicator with 10 red LEDs for individual fitting and integration in the 55x55 mm and 63x63 mm switch system. Standby loss 0.8 watt only.

The scope of supply includes a frame R, an intermediate frame ZR in the same colour, a mounting plate and an adhesive film. In addition, an intermediate frame ZRF in the same colour is supplied for installation in an existing frame R1F, R2F or R3F for flat pushbuttons.

Power supply 230 V.

A 20 cm long black/blue connecting wire is routed to the rear.

Before screwing on, remove the frame and intermediate frame from the mounting plate. To do this, press out the catches on the mounting plate. Then screw on the mounting plate - with the catches at the top and bottom -, snap on the frame and the intermediate frame, and connect and snap on the energy consumption indicator.

We recommend sheet metal countersunk screws 2.9x25 mm, DIN 7982 C, for screw connections on 55 mm switch boxes. See Accessories on page Z-6.

The energy consumption indicator evaluates the information received from the wireless energy meter transmitter module FSS12 or the wireless single-phase energy meters FWZ12- or FWZ61-16A or from a wireless impulse switch with integrated relay function with active current meter FSR70W-16A respectively with power measurement FSR61VA-10A and indicates the current energy consumption by a row of LEDs.

The normal rate and off-peak status are also displayed by the FSS12.

The 15 W to 30 kW reading is adaptable to maximum expected consumption using a rotary switch to visualise even minor changes. There are 5 ranges to choose from, starting on the left with 1, 3, 7, 15 and 30 kW. On the energy consumption indicator, a maximum of 5 out of 10 LEDs light up simultaneously, and the last clockwise LED lights up the brightest. If one range setting is exceeded, the last LED flashes.

A light sensor controls LED brightness depending on the ambient brightness.

FEA55LED-ws	Energy consumption indicator with LED white	EAN 4010312302750	**74,90 €/pc.**
FEA55LED-rw	Energy consumption indicator with LED pure white	EAN 4010312302774	**74,90 €/pc.**
FEA55LED-an	Energy consumption indicator with LED anthracite	EAN 4010312302828	**74,90 €/pc.**
FEA55LED-sz	Energy consumption indicator with LED black	EAN 4010312302798	**74,90 €/pc.**
FEA55LED-wg*	Energy consumption indicator with LED pure white glossy	EAN 4010312302804	**74,90 €/pc.**
FEA55LED-al	Energy consumption indicator with LED coated/aluminium paint	EAN 4010312310779	**83,70 €/pc.**

* The bottom of the housing is matt.

Recommended retail prices excluding VAT.

Direct display with the Wireless Energy Consumption Indicator FEA55D

FEA55D-

min



Wireless energy consumption indicator with display for individual fitting and integration in the 55x55 mm or 63x63 mm switch system. For up to 20 wireless single-phase energy meters and wireless three-phase energy meters as well as energy meter transmitter modules. Standby loss 0.2 watt only.

The scope of supply includes a frame R, an intermediate frame ZR in the same colour, and a mounting plate. In addition, an intermediate frame ZRF in the same colour is supplied for installation in an existing frame R1F, R2F or R3F for flat pushbuttons.

Power supply 12 V DC.

A 20 cm long red/black connecting wire is routed to the rear.

Before screwing on, remove the frame and intermediate frame from the mounting plate. To do this, press out the catches on the mounting plate. Then screw on the mounting plate - with the catches at the top and bottom -, snap on the frame and the intermediate frame, and connect and snap on the energy consumption indicator.

We recommend sheet metal countersunk screws 2.9x25 mm, DIN 7982 C, for screw connections on 55 mm switch boxes. See Accessories on page Z-6.

The energy consumption indicator evaluates the parameters of the wireless single-phase energy meters FWZ12 and FWZ61, the RS485 single-phase energy meter transmitter module FWZ14-65A, the RS485 three-phase energy meters DSZ14DRS and DSZ14WDRS as well as the wireless energy meter transmitter module FSS12.

The last energy meter selected is displayed from EM01 to EM20: the accumulated energy consumption (meter reading) in KWh with 7 digits, of which one digit is a decimal point, and the currently consumed active power (momentary capacity) from 15 watts to 65,000 watts.

The data of one energy meter transmitter module FSS12 and one RS485 three-phase energy meter DSZ14DRS also contains separate values for normal rate (HT) and off-peak (NT), both of which are displayed. Momentary capacity is also identified accordingly.

If you press MODE for longer than two seconds, the display goes to energy meter EM01.

For energy meter EM01, an additional statistic can be displayed for total energy consumption over the last hours, days, months and years. This is obtainable by briefly pressing MODE. *statistic* appears in the display. Press MODE to browse through all the possible displays *consump. total, hour, day, month* and *year.*

Press the button SET within the display options. Each press of the button increments the number displayed by 1 and the actual value is indicated in the display. The last full hour then becomes the last hour but one, etc.

Hour 01 = Displays consumption over the last full hour to 24 = 24 hours ago.
Day 01 = Displays consumption of the last full day up to day 31 = 31 days ago.
Month 01 = Displays consumption of the last full month up to month 12 = 12 months ago.
Year 01 = Displays consumption of the last full year up to year 24 = 24 years ago.

20 seconds after last pressing MODE or SET, and if you press and hold down MODE for longer than 2 seconds, the program revert automatically back to normal display.

FEA55D-ws	Energy consumption indicator with display white	EAN 4010312302675	**84,90 €/pc.**
FEA55D-rw	Energy consumption indicator with display pure white	EAN 4010312302699	**84,90 €/pc.**
FEA55D-an	Energy consumption indicator with display anthracite	EAN 4010312302743	**84,90 €/pc.**
FEA55D-wg*	Energy consumption indicator with display pure white glossy	EAN 4010312302729	**84,90 €/pc.**
FEA55D-al	Energy consumption indicator with display coated/aluminium paint	EAN 4010312310809	**93,70 €/pc.**

* The bottom of the housing is matt.

Recommended retail prices excluding VAT.

With the **Wireless Visualisation and Control Software GFVS-Energy** and the USB receiver FAM-USB, the wireless telegrams of the wireless energy meter transmitter module FSS12 or the two- and three-phase energy meters and the transmitter modules can be received or displayed on the PC.
⚠ Caution! The software GFVS-Energy is contained in the Wireless Visualisation and Control Software GFVS 3.0 and need not be installed separately.

GFVS-Energy



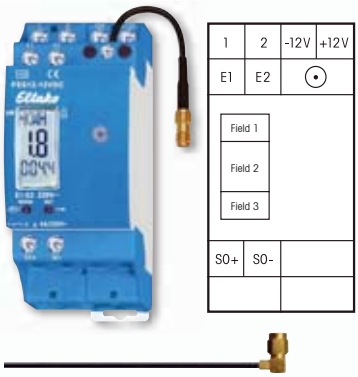
with FAM-USB

Wireless Visualisation and Control Software for up to 100 electricity meters with S0 interface with FSS12 energy meter transmitter modules as well as wireless two-way energy meter, wireless three-phase energy meter and wireless energy meter transmitter modules.

The software comes on a stick.
The wireless receiver FAM-USB with USB port is required for PC reception and if required for transmitting wireless telegrams from a PC to load shedding relay and is included in the scope of supply. It must be licenced via web.

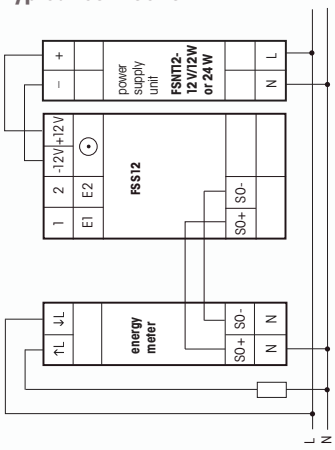
GFVS-Energy	with wireless receiver FAM-USB	EAN 4010312315040	**149,60 €/pc.**

FSS12-12 V DC



The enclosed small antenna can be replaced with a wireless antenna FA250 with magnetic base and cable.

Typical connection



See page **2**-2 for a detailed description.

Wireless energy meter transmitter module for connection to S0 interface of many single-phase energy meters and three-phase energy meters. Only 0.5 watt standby loss. With load shedding relay 1 NO contact potential free 4 A/250 V. With exchangeable antenna. If required, a wireless antenna FA250 can be connected.

Modular device for DIN-EN 60715 TH35 rail mounting. 2 modules = 36 mm wide, 58 mm deep.
The energy meter transmitter module FSS12 evaluates the signals from the energy meter S0 interface and transmits wireless telegrams containing consumption and meter reading to the Eltako wireless network for evaluation on a PC using the Visualisation and Control Software GFVS 3.0 and GFVS-Energy. On three-phase energy meters, the data sent includes normal rate (HT) or off-peak (NT) energy tariff data, provided the E1/E2 terminals on the three-phase energy meter are connected to E1/E2 on the FSS12. From production week 42/2012 also with adjustable pulse rate.
GFVS-Energy supports up to 100 transmitter modules and GFVS 3.0 up to 250 transmitter modules. The 12 V DC supply voltage of the complete RS485 bus is mainly powered at 12 W or 24 W by a switch mode power supply unit FSNT12-12 V DC that is only 1 or 2 pitch units wide. If the relay of the FSS12 is switched on, a power of 0.6 watts is required.
The setting and display screen is subdivided into 3 fields:

- **Field 1:** The normal display is the unit of the meter reading currently displayed in Field 3. This alternates every 4 seconds with either kilowatt hours kWh (KWH in display) or megawatt hours MWh (MWH in display). The display in Field 1 is supplemented by a + sign after the reading to indicate that the off-peak tariff rate is applied to E1/E2.
- **Field 2:** Instantaneous values of energy consumption (active power) in watt (W) or kilowatt (kW). The left-pointing arrow in Field 1 indicates an automatic switchover from 0 to 99 W to 0.1 to 65 kW.
- **Field 3:** The meter reading is the normal display. Every 4 seconds the display alternates between 3 whole numbers and 1 decimal point (from 0.1 to 999.9 kWh) and 1 or max. 3 whole numbers (from 0 to 999 MWh). The meter reading is displayed without decimals in increments of 1 kWh with freely chosen pulse rates whose last digit is not 0.

Wireless telegrams: Within 20 seconds, a power telegram is sent if the power changes by minimum 10%. A switchover from HT to NT is transmitted immediately in the same way as a meter reading change. A full telegram comprising meter reading HT, meter reading NT and power is transmitted 20 seconds after the power supply is switched on and then every 10 minutes. The LED lights up briefly when a telegram is transmitted.

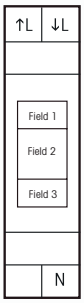
FSS12-12V DC	Wireless energy meter transmitter module	EAN 4010312301944	**79,80 €/pc.**

Recommended retail prices excluding VAT.

EVA12-32A

min





Maximum current 32A, standby loss 0.5 watt only.

Modular device for DIN-EN 60715 TH35 rail mounting.
1 module = 18mm wide, 58mm deep.

The energy consumption indicator EVA12 uses the current between input and output to measure active energy in the same way as a single-phase energy meter. It saves the consumption parameter in a non-volatile memory.

Accuracy conforms to Class B MID (1%) like all Eltako single-phase energy meters.
The inrush current is 20mA.

In this way the energy consumption indicator reproduces exactly the reading on the billing energy meter installed at a different location in the building.

The display is subdivided into 3 fields.

- **Field 1:**
  This display refers to the cumulative value in field 3.
  IIII moving slowly to the right = Field 3 shows the cumulative consumption since last reset. This is the display standard mode.
  H01 = Field 3 shows the consumption for the last hour up to H24 = 24 hours ago.
  D01 = Field 3 shows the consumption for the last day up to D31 = 31 days ago.
  M01 = Field 3 shows the consumption for the last month up to M12 = 12 months ago.
  Y01 = Field 3 shows the consumption for the last year up to Y24 = 24 years ago.
- **Field 2:**
  Instantaneous values of energy consumption (active power) in watt (W) or kilowatt (kW). The display arrows on the left and right show the automatic change W and kW.
- **Field 3:**
  Cumulative value in kWh. Display up to 9.999kWh with 3 decimal digits, from 10kWh with 1 deciaml digit and from 1000kWh without decimal digit.

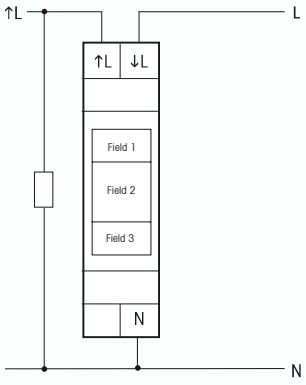
Press the left button MODE to scroll down the display options which are shown in field 1: H01, D01, M01 and Y01 as described above. Finally, press MODE to show the abbreviation of the set language, e.g. GB for English, D for German and F for French.

Press the right button SELECT once within the display options to increment the indicated figure by 1. The corresponding value is indicated in field 3. The last clock hour then becomes the hour before last, etc.

If the active language was selected with MODE, press SELECT to switch to a different language. Exit the new language setting by pressing MODE to activate the setting.
The program returns to the standard display mode automatically if MODE or SELECT are not operated for 20 seconds or if you press both buttons briefly simultaneously.

Reset
To start saving the values to the nearest hour, we recommend performing a reset at an opportune moment after installation. Hold down the buttons MODE and SELECT simultaneously for a further 3 seconds until RES appears in field 1. Then press SELECT briefly to reset all memories. Afterwards the program returns automatically to standard display mode.

Typical connection



EVA12-32A	Maximum current 32A	EAN 4010312500828	**59,90 €/pc.**

Recommended retail prices excluding VAT.

DSZ14DRS-3x65A

min MID



Three-phase energy meter.
Maximum current 3x65A. Standby loss 0.4 watt per path only.

Modulair device for DIN-EN 60715 TH35 rail mounting in distribution cabinets with IP51 protection class. 4 modules = 70mm wide and 58mm deep.

Accuracy class B (1%). With RS485 interface.

It measures active energy by means of the current between input and output. The internal power consumption of 0.4 watt active power per path is neither metered nor indicated.

1, 2 or 3 phase conductors with max. currents up to 65A can be connected.
The inrush current is 40mA.

The terminals ↑L1 and N must always be connected.

Connection to the Eltako RS485 bus by means of a 2-wire screened bus line (e.g. telephone line). The meter reading and the momentary capacity are transferred to the bus – e.g. for transfer to an external computer of the GFVS 3.0 Software – and is also transferred to the wireless network via the FAM14. Display also using FEA55D and FEA55LED.

The 7 segment LC display is also legible twice within a period of 2 weeks without power supply.

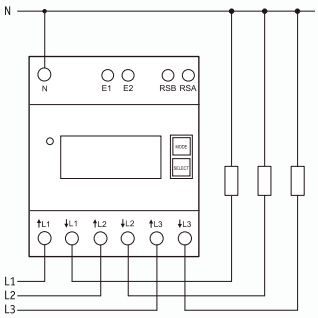
The power consumption is displayed with a LED flashing 1000 times per kWh next to the display.

Designed as standard for using as double-tariff meter: Switch over to a second tariff by applying 230V to terminals E1/E2.

On the right next to the display are the keys MODE and SELECT. Press them to scroll through the menu according to the operation manual. First the **background lighting** switches on. The display then shows the total active energy per tariff, the active energy per resettable memory RS1 or RS2, and the instantaneous values of consumption, voltage and current per phase.

Error message (false)
When the phase conductor is missing or the current direction is wrong 'false' and the corresponding phase conductor are indicated on the display.

Typical connection
4-wire-connection 3x230/400V



DSZ14DRS-3x65A	Three-phase energy meter MID approval	EAN 4010312501443	**289,00 €/pc.**

FWZ14-65A

min RS485





Wireless single-phase energy meter transmitter module, maximum current 65A. Only 0.5 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.
1 module = 18mm wide, 58mm deep.

Accuracy class B (1%). With RS485 interface.

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.

It measures active energy by means of the current between input and output. The internal power consumption of 0.5 watt active power is not metered..

1 phase conductor with a max. current up to 65A can be connected.

The inrush current is 40mA.

The meter reading and the current power will be handed over to the bus - eg for forwarding to an external computer, the software GFVS 3.0 or GFVS Energy - and also to the wireless network via FAM14. To be displayed also with FEA55D and FEA55LED.

Power consumption is indicated using a LED.

If the L input and the L output were interchanged when hooked up, a normal rate (HT)/off-peak (NT) switchover telegram is transmitted to indicate the hook-up error.

FWZ14-65A	Wireless single-phase energy meter transmitter module 65A	EAN 4010312501511	**59,90 €/pc.**

Recommended retail prices excluding VAT.

DSZ14WDRS-3x5A

min | MID



Two-way three-phase energy meter with settable CT ratio and MID. Maximum current 3x5A. Standby loss 0.4 watt per path only.

Modulair device for DIN-EN 60715 TH35 rail mounting in distribution cabinets with IP51 protection class. 4 modules = 70mm wide and 58mm deep.

Accuracy class B (1%). With RS485 interface.

This three-phase energy meter measures active energy by means of the current between input and output.

The internal power consumption of 0.4 watt active power per path is neither metered nor indicated.

1, 2 or 3 phase conductors with max. currents up to 5A can be connected.

The inrush current is 10mA.

The terminals ↑L1 and N must always be connected .

Connection to the Eltako RS485 bus by means of a 2-wire screened bus line (e.g. telephone line). The meter reading and the momentary capacity are transferred to the bus – e.g. for transfer to an external computer of the GFVS 3.0 Software – and is also transferred to the wireless network via the FAM14. Display also using FEA55D and FEA55LED.

The 7 segment LC display is also legible twice within a period of 2 weeks without power supply.

The power consumption is displayed with a LED flashing 10 times per kWh next to the display.

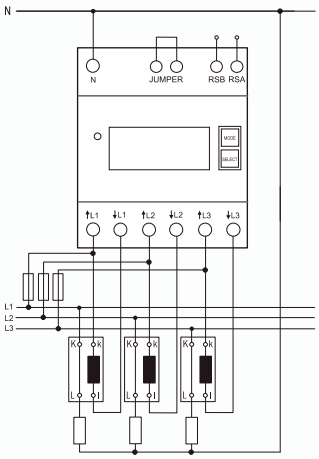
On the right next to the display are the keys MODE and SELECT. Press them to scroll through the menu. First the **background lighting** switches on. The display then shows the total active energy, the active energy of the resettable memory as well as the instantaneous values of consumption, voltage and current per phase

The CT ratio can also be set. It is set to 5:5 at the factory and blocked with a bridge over the terminals which are marked with 'JUMPER'. To adjust the CT ratio to the installed transformer remove the bridge and reset the energy meter according to the operation manual. Then block it again with the bridge. Adjustable current transformer ratios: 5:5, 50:5, 100:5, 150:5, 200:5, 250:5, 300:5, 400:5, 500:5, 600:5, 750:5, 1000:5, 1250:5 and 1500:5.

Error message (false)
When the phase conductor is missing or the current direction is wrong 'false' and the corresponding phase conductor are indicated on the display.

Important! Before working on the current transformers disconnect the voltage paths of the energy meters.

Typical connection
4-wire-connection 3x230/400V



DSZ12WDRS-3x5A	Three-phase energy meter MID approval	EAN 4010312 501450	**289,00 €/pc.**

Recommended retail prices excluding VAT.

FWZ12-16A





Wireless single-phase energy meter transmitter module, maximum current 16A. Only 0.5 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.
1 module = 18mm wide, 58mm deep.

This single-phase energy meter measures active energy by means of the current between input and output and transmits the consumption and meter reading over the Eltako wireless network. Accuracy class B (1%).

Evaluation on the computer with Eltako Wireless Building Visualisation and Control Software GFVS or with energy consumption indicators FEA55LED or FEA55D. GFVS-Energy supports up to 100 transmitter modules and GFVS 3.0 up to 250 transmitter modules.

The internal power consumption of max. 0.5 watt active power is neither metered nor indicated.

Like all meters without PTB or MID approval in Germany, not approved to levy electricity charges.

1 phase conductor with a max. current up to 16A can be connected. The inrush current is 20mA. The consumption is saved to a non-volatile memory and is immediately available again after a power failure.

Wireless telegrams: A telegram is transmitted within 20 seconds if the power status changes by min. 10 percent. A change in meter reading is transmitted immediately. A full telegram comprising meter reading and power status is transmitted every 10 minutes.When the power supply is switched on, a **teach-in telegram** is sent to teach in the associated energy consumption indicator.

If the L input and the L output were interchanged when hooked up, a normal rate (HT)/off-peak (NT) switchover telegram is transmitted to indicate the hook-up error.

FWZ12-16A	Wireless single-phase energy meter transmitter module 16A	EAN 4010312303184	**74,80 €/pc.**

FWZ12-65A





Wireless single-phase energy meter transmitter module, maximum current 65A. Only 0.5 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting. 1 module = 18mm wide, 58mm deep.

This single-phase energy meter measures active energy by means of the current between input and output and transmits the consumption and meter reading over the Eltako wireless network. Accuracy class B (1%).

Evaluation on the computer with Eltako Wireless Building Visualisation and Control Software GFVS or with energy consumption indicators FEA55LED or FEA55D. GFVS-Energy supports up to 100 transmitter modules and GFVS 3.0 up to 250 transmitter modules.

The internal power consumption of max. 0.5 watt active power is neither metered nor indicated.

Like all meters without PTB or MID approval in Germany, not approved to levy electricity charges.

1 phase conductor with a max. current up to 65A can be connected. The inrush current is 40mA. The consumption is saved to a non-volatile memory and is immediately available again after a power failure.

Wireless telegrams: A telegram is transmitted within 60 seconds if the power status changes by min. 10 percent. A change in meter reading is transmitted immediately. A full telegram comprising meter reading and power status is transmitted every 10 minutes. When the power supply is switched on, a **teach-in telegram** is sent to teach in the associated energy consumption indicator.

If the L input and the L output were interchanged when hooked up, a normal rate (HT)/off-peak (NT) switchover telegram is transmitted to indicate the hook-up error.

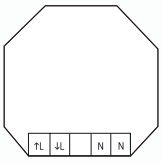
FWZ12-65A	Wireless single-phase energy meter transmitter module 65A	EAN 4010312311059	**80,80 €/pc.**

Recommended retail prices excluding VAT.

FWZ61-16A

min





Wireless single-phase energy meter transmitter module, maximum current 16A. Only 0.5 watt standby loss.

For installation. 45mm long, 55mm wide, 35mm deep. Accuracy class B (1%).

This single-phase energy meter measures active energy by means of the current between input and output and transmits the consumption and meter reading over the Eltako wireless network. Accuracy class B (1%).

Evaluation on the computer with Eltako Wireless Building Visualisation and Control Software GFVS or with energy consumption indicators FEA55LED or FEA55D. GFVS-Energy supports up to 100 transmitter modules and GFVS 3.0 up to 250 transmitter modules.

The internal power consumption of max. 0.5 watt active power is neither metered nor indicated.

Like all meters without PTB or MID approval in Germany, not approved to levy electricity charges.

1 phase conductor with a max. current up to 16A can be connected. The inrush current is 20mA. The consumption is saved to a non-volatile memory and is immediately available again after a power failure.

Wireless telegrams: A telegram is transmitted within 20 seconds if the power status changes by min. 10 percent. A change in meter reading is transmitted immediately. A full telegram comprising meter reading and power status is transmitted every 10 minutes.

When the power supply is switched on, a **teach-in telegram** is sent to teach in the associated energy consumption indicator.

If the L input and the L output were interchanged when hooked up, a normal rate (HT)/off-peak (NT) switchover telegram is transmitted to indicate the hook-up error.

FWZ61-16A	Wireless single-phase energy meter transmitter module	EAN 4010312302354	**71,80 €/pc.**

FSR70W-16A

min | central ON OFF | W



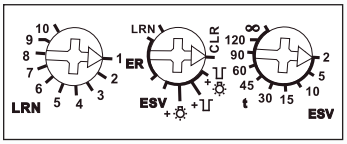
1 NO contact not potential free 16A/250V AC, incandescent lamps up to 2000 watts. With integrated active power measurement up to 3680 watts. Bidirectional wireless and with repeater function. Only 0.9 watt standby loss.

Mounting in the 230V power supply cord, e.g. in false ceilings.
100mm long, 50mm wide and 31 mm deep.

The integrated **active power measurement** measures power upwards of approx. 10W when the contact is closed and transmits it to the Eltako wireless network. Signal evaluated by the Wireless Building Visualisation and Control Software GFVS or the power consumption displays FEA55.

With **bidirectional wireless;** in addition, a **repeater** function can be switched in. Every change in state and incoming central command telegrams are confirmed by a wireless telegram. This wireless telegram can be taught-in in other actuators, in the FVS software and in FUA55 universal displays.

Function rotary switches on the side



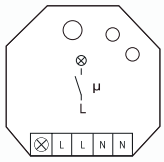
Standard setting ex works.

FSR70W-16A	Wireless actuator – Impulse switch with integr. relay function with active power measurement	EAN 4010312312179	**95,90 €/pc.**

Recommended retail prices excluding VAT.

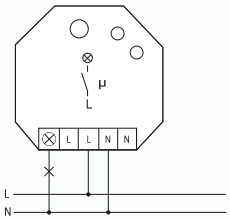
FSR61VA-10A





1 NO contact not potential free 10A/250V AC, incandescent lamps up to 2000 watts, off delay with switch-off early warning and switchable push-button permanent light. With integrated current measurement up to 10A. Bidirectional wireless and repeater function are switchable. Only 0.7 watt standby loss.

Typical connection



For installation. 45mm long, 55mm wide, 33mm deep.

Supply voltage 230V.

This wireless actuator features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics and a bistable relay.

Apparent power is measured by the integrated current measurement from approx. 10VA to 2300VA when the contact is closed. A wireless telegram is transmitted into the Eltako wireless network within 30 seconds after switching on the load or after a change in power by min 5% and cyclically every 10 minutes. Signal evaluated by the Wireless Visualisation and Control Software FVS or the energy consumption indicators FEA55.

Evaluation on the computer with Eltako Wireless Building Visualisation and Control Software GFVS or with energy consumption indicators FEA55LED or FEA55D. GFVS-Energy supports up to 100 transmitter modules and GFVS 3.0 up to 250 transmitter modules.

From production week 03/2013 bidirectional wireless and repeater function can be switched on. Every change in state and incoming central command telegrams are confirmed by a wireless telegram. This wireless telegram can be taught-in in other actuators, in the GFVS software and in FUA55 universal displays.

See page **5**-6 for a detailed description.

FSR61VA-10A	Wireless actuator – Impulse switch with integr. relay function with current measurement	EAN 4010312311462	**73,70 €/pc.**

FSVA-230V



1 NO contact not potential free 10A/250V AC, incandescent lamps up to 2000 watts, ESL and LED up to 400W. With integrated current measurement up to 10A. Bidirectional wireless and repeater function are switchable. Only 0.7 watt standby loss.

Adapter for German fused safety socket. With increased shock protection.

This wireless actuator features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics and a bistable relay.

Apparent power is measured by the integrated current measurement from approx. 10VA to 2300VA when the contact is closed. A wireless telegram is transmitted into the Eltako wireless network within 30 seconds after switching on the load or after a change in power by min 5% and cyclically every 10 minutes. Signal evaluated by the Wireless Visualisation and Control Software GFVS 3.0 or the energy consumption indicators FEA55.

Evaluation on the computer with Eltako Wireless Building Visualisation and Control Software GFVS or with energy consumption indicators FEA55LED or FEA55D. GFVS-Energy supports up to 100 transmitter modules and GFVS 3.0 up to 250 transmitter modules.

Bidirectional wireless and **repeater** function can be switched on. Every change in state and incoming central command telegrams are then confirmed by a wireless telegram.This wireless telegram can be taught into other actuators, the software GFVS 3.0, and universal displays FUA55.

Up to 35 wireless pushbuttons are assigned **with the left button LRN,** either as a universal pushbutton, direction pushbutton or central pushbutton.

It can be switched on and off manually **with the right button.**

The LED performs during the teach-in process according to the operation manual. It shows wireless control commands by short flickering during operation.

January 2013.

Technical data page **T**-1.

FSVA-230V	Wireless actuator – Socket switching actuator with current measurement	EAN 4010312314555	**99,90 €/pc.**

Recommended retail prices excluding VAT.

The smart counting champions

Eltako offers a complete range of energy meters for DIN-EN 60715 TH35 rail mounting from 32 A up to 65 A. Special attention should be paid to the power consumption of only 0.3 W active power of the 32 A and 65 A single-phase devices.

If energy meters for DIN-EN 60715 TH35 rail mounting are not used for billing we recommend the "Economy Line" without approval. Our marking is an "E" in the type designation: WSZ12DE-32 A, WSZ12E-65 A, DSZ12DE-3x65 A and DSZ12WDE-3x5 A.

All meters have an S0 interface according to DIN 43 864.

Page in Catalogue "Switchgear, power supplies and electronic electricity meters"	F9 top	F9 bottom	F10 top	F10 bottom	F11	F12 top	F12 bottom	F13 top	F13 bottom	F14	F15	F16	F17	F18 top	F18 center	F18 bottom
	WSZ12D-32 A	WSZ12D-65 A	Economy Line WSZ12DE-32 A	Economy Line WSZ12DE-65 A	WZR12-32 A	DSZ12D-3x65 A	DSZ12WD-3x5 A	Economy Line DSZ12DE-3x65 A	Economy Line DSZ12WDE-3x5 A	DSZ12DM-3x65 A	DSZ12WDM-3x5 A	DSZ12DZ-3x65A	DSZ12WDZ-3x5A	WSZ60	DSZ60	DSZ60D
Modular device for mounting on DIN rail EN 60715 TH35, number of modules 18 mm each	1	1	1	1	1	4	4	4	4	4	4	4	4	-	-	-
Meter mounting installation														■	■	■
Single-phase energy meter	■	■	■	■	■									■		
Three-phase energy meter						■	■	■	■	■	■				■	■
Two-way three-phase energy meter												■	■			
With MID approval	■	■	–	–	–	■	■	–	–	■	■	■	■	■	■	■
Reference current I_{ref} (Limiting current I_{max}) A	5 (32)	10 (65)	5 (32)	10 (65)	5 (32)	10 (65)	5 (6)[1]	10 (65)	5 (6)[1]	10 (65)	5 (6)[1]	10 (65)	5 (6)[1]	5 (60)	5 (60)	5 (60)
Display drum type register digits														6+1	6+1	
Display LC display digits	5+2[2] 6+1	5+2[2] 6+1	5+2[2] 6+1	5+2[2] 6+1	2/4	5+2[2] 6+1	5+2[2] 6+1	5+2[2] 6+1	5+2[2] 6+1	5+2[2] 6+1	5+2[2] 6+1	5+2[2] 6+1	5+2[2] 6+1			6+1
Accuracy class MID, inaccuracy ±1%	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
With return stop	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Display instantaneous values	■	■	■	■	■	■	■	■	■	■	■	■	■			
Indication of misconnection	■	■	■	■	■	■	■	■	■	■	■	■	■			
Low standby loss	■	■	■	■	■	■	■	■	■	■	■	■	■			
S0 interface potential free	■	■	■	■		■	■	■	■			■	■			
M-bus interface										■	■					

[1] CT operated energy meter

[2] Switches over automatically from 5+2 to 6+1.

Eltako – The Wireless Building



The blue wireless network in the building

GFVS-Safe

Wireless Building Server with installed Wireless Visualisation and Control Software GFVS 3.0



Tablet PC



Smartphone



Sensors



Series 14



Switching and dimming actuators Series 14, central installation

Series 61+70



Switching and dimming actuators Series 61 and 70, decentralised installation

The Eltako Wireless Building is the wireless network for buildings of any size. The wireless pushbuttons, wireless sensors and wireless actuators from Eltako work perfectly together and control, regulate and switch all areas in the building. GFVS software and hardware for visualisation and control.

- When a FGSM14 GSM module is installed, the user can monitor and control all functions remotely from any activated flat-rate smartphone by mobile radio without requiring a computer or internet access. Very simple and secure registration using **Eltako quickcon® technology.**
- An additional installed computer GFVS-Safe installed with the Wireless Building Visualisation and Control Software GFVS 3.0 provides extra functions and permits modern visualisation and control via tablet or smartphone over the integrated WLAN. Remote over smartphone including camera videos.
- **All pushbutton, sensor and actuator functions are retained even if the computer is down – e.g. for maintenance purposes.**
- The Smart Home Central Unit GFVS-Touch with touch screen, integrated wireless antenna module and installed GFVS 3.0 software is available for low-cost entry-level PC-assisted visualisation and control.

Without **Eltako sensors and actuators** no information or control commands can be sent over the wireless network. They form the basis for the **Eltako Wireless Building** and of course they operate without a server if there is no requirement for centralised building monitoring, centralised building control or visualisation. Smartphone access is still possible for Series 14 actuators.

Eltako sensors for switch commands, temperature, brightness, motion, humidity and air quality run partly without external power supply.

Batteryless and cordless **Eltako wireless pushbuttons and hand-held transmitters** generate their own power requirements for wireless telegrams when operated. Many **Eltako sensors** generate their power requirements from a solar cell and save excess energy from daylight to storage capacitors so that there is sufficient energy for troublefree functioning in the dark.

Some of these sensors and solar cells can be made 'winterproof' with additional batteries. Further Eltako sensors have a higher power requirement which they cannot generate themselves and therefore require an external power supply.

Eltako actuators are the backbone of the **Eltako Wireless Building.** They only evaluate directly addressed wireless telegrams in order to switch or control any number of consumers in the building. Many have a **bidirectional function.** This allows them to send back their switch states to the server or displays or directly initiate other functions via actuators. In addition, these actuators may also function as repeaters.

Of course there are specific actuators for either centralised or decentralised installation. If the **Eltako RS485 bus** is installed centrally with rail mounted devices in switch cabinets, a **wireless antenna module FAM14** is used to communicate with the actuators. The RS485 bus can also be used composite or without wireless by means of the **Eltako remote switch system FTS.**

The Eltako Wireless Building uses all Eltako wireless components in an ingenious way and can be installed even in small installations. The components are all downwards-compatible!

All sensors and actuators communicate within the Eltako wireless network by means of telegrams using the world-wide standard of the **EnOcean Alliance.** The batteryless and cordless wireless modules in the Eltako wireless pushbuttons are produced by **EnOcean** in Germany as well as the wireless microchips in the other sensors and actuators.

Eltako therefore develops and manufactures **all** the offered sensors and actuators with the Eltako logo. These are of course compatible with all products made by other manufacturers within the enormous international EnOcean family.

A small selection of our wireless sensors and actuators from the Wireless Building catalogue



FT4F
Flat pushbutton without battery or wire



FT2SF
Flat wireless sensor pushbutton with two touch surfaces



UFB-Harmony One+E
Universal remote control from LOGITECH



FMH2S-wr
Mini hand-held transmitter for calling systems



FBH63AP
Motion/brightness sensor



FTR55H
Temperature controller



FSR14-2x
Impulse switch



FUD14
Dimming actuator 400W



FSR61NP
Switching actuator



FUD61NP
Dimming actuator without N



Remote control FF8

You can start small with Eltako Wireless Building

An actuator with two batteryless and wireless pushbuttons is already a very elegant solution to the problem of missing pushbuttons. The old light switch is replaced by a wireless actuator preceded by a wireless pushbutton and any number of other wireless pushbuttons can be fitted. Then of course, the wireless actuator can also be a wireless dimming actuator.

At the other end of the unlimited and wide spectrum of possibilities with the Eltako Wireless Building, there are networked skyscrapers with hundreds of wireless sensors and wireless actuators, in groups or grouped floor by floor, monitored, controlled and visualised by servers GFVS-Safe and installed software GFVS 3.0.

The 4 stages on the Eltako Wireless Building success ladder

Stage 1

A few wireless sensors and wireless actuators to improve or expand an existing installation. Generally with actuators installed decentrally.



Stage 2

Several wireless sensors and wireless actuators to renovate an existing building or construct a new building but without centralised monitoring, control or visualisation. With actuators installed decentralised and centralised. Smartphone access by app and GSM module.



Stage 3

Several wireless sensors and wireless actuators in a residential building with centralised monitoring, control or visualisation. With a server GFVS-Safe, the wireless antenna module FAM-USB and the software license for GFVS 3.0. Actuators mainly installed centrally and supplemented by decentralised installation. With internet access, standard external access to smartphones over the mobile radio network. Visualisation and control from tablet PCs.



Stage 4

Many wireless sensors and wireless actuators in a large building with centralised monitoring, control or visualisation. With the server GFVS-Safe, the software GFVS 3.0, the wireless LAN access points BSC-BAP and gateways to the central computer. Actuators partly installed centrally, partly installed decentrally e.g. in false ceilings. With internet access, standard external access to smartphones over the mobile radio network. Visualisation and control from tablet PCs.



The Blue Wireless Network in the Building [1]
The Server GFVS-Safe with Wireless Building Software GFVS 3.0

Server-controlled building monitoring, control and visualisation. Secure data management [2] by means of **GFVS-Safe** [3] and the factory installed **Wireless Building Visualisation and Control Software GFVS 3.0** [4]**.**

Monitors and transmits wireless information independent of the size of the building or number of locations.

Wireless antenna module FAM-USB for smaller buildings.

Wireless LAN access points BSC-BAP [5] for 200 to 400 m² building surface area including large data buffer and automatic management of key functions.

With internet access, standard access to smartphones over the mobile radio network.

Tranmission of **electricity meter parameters** directly from the RS485 interface of the meter to the bus and then to the wireless network, if required.

The **Eltako Wireless Building** is prepared to set up an encrypted data link to power supply companies. This is a pre-condition for future load-dependent tariff controls in the **Smart Net** [6]**. Eltako** also supplies the associated **Smart Meters with MID.**

The server GFVS-Safe



Visualisation and control with a tablet PC and smartphone



[1] The blue network. Derived from the Eltako corporate colour blue which is the symbolic colour for environmental protection and sustainability in numerous countries – e.g. in the USA.

[2] All data and events are saved to a database for a predefined period. A net storage capacity of up to 75 GB is available for data. As protection against data loss, data is stored redundantly on a hard disc partition using a special process. In addition, data can be stored externally, e.g. on a USB stick.

[3] The GFVS-Safe is a flat fanless server in industrial standard which can either be secured under a table top or to the rear of an appropriately equipped monitor using one of the VESA mounts contained in the scope of delivery. The operating system is also installed as well as the Wireless Building Visualisation and Control Software GFVS 3.0. A FAM-USB is included in the scope of supply.

[4] The Wireless Building Visualisation and Control Software GFVS visualises the switch positions of actuators and the consumption of connected meters for electricity, gas, water and heat. On the other hand, direct hook-ups and controls can be switched using preset software links. All you need to do then is click the mouse or touch the monitor screen. This is not included in the scope of delivery to allow the user to select the solution according to his personal requirements. A notebook can be connected to the computer at any time. The connecting cable is contained in the scope of delivery.

[5] The wireless LAN access points BSC-BAP communicate with all components in the Eltako wireless network. They exchange information by intercommunication and with the computer using TCP/IP over the ETHERNET. Every BSC-BAP covers a building surface area of approx. 200 to 400 m². This is dependent on the construction of the building.

[6] If required, the power supply company can retrieve the load profile of a building and offer the appropriate tariffs. Tariffs are then saved in the computer so that you can perform and display a calculation of costs. Control information can also be saved so that certain consumers are only switched on depending on the tariff in order to lower energy costs.

Like a spider in a web the server GFVS-Safe 'feels' all 'vibrations' in the network. It detects every single wireless telegram within the entire building. This is the work of the **wireless antenna module FAM-USB** or the **wireless LAN access points BSC-BAP** which capture all signals and send them to the computer via ETHERNET.

There is more to the server and its assistants than listening, they can also send control commands and information over the **Eltako wireless network.** For example, to control a building's energy supply, to supply fresh air, control shading elements optimally or switch lighting from a central point.

Reliable calculations show that optimised automatic building control is required to implement the **zero energy building** or even the **+ energy building**.

The server GFVS-Safe



Wireless antenna module FAM-USB (included in the scope of supply of the server GFVS-Safe)



LAN access point BSC-BAP



Switching and dimming actuators Series 14, for central installation



Uninterruptible power supply unit



GFVS-Safe





FAM-USB included



Wireless Building server GFVS-Safe with WLAN and M2M communication

The GFVS-Safe is a flat and fanless server in industrial standard which can be fixed to the rear of a monitor fitted with one of the VESA mounts contained in the scope of delivery or for example under a table top.

The operating system as well as the Eltako Wireless Building Visualisation and Control Software GFVS 3.0 are installed. A wireless antenna module FAM-USB is included in the scope of supply.

All data and events are saved to a database for a predefined period. There is a net memory capacity of up to 75 GB available for data. As protection against data loss, data is stored redundantly on a hard disc partition using a special process. In addition, data can be stored externally, e.g. on an USB stick.

The installed Wireless Building Visualisation and Control Software GFVS 3.0 visualises the switch positions of actuators and the consumption of connected meters for electricity, gas, water and heat. On the other hand, direct hook-ups and controls can be made using preset software links. All that is needed is a mouse click or a touch on a tablet PC, smartphone or notebook. This hardware is not included in the scope of supply to allow the user to select the solution according to his personal requirements.

Communication with the Eltako Wireless Building requires a wireless antenna module FAM-USB which is contained in the GFVS-Safe scope of supply. This device and the supplied license key activate the GFVS 3.0 software.

If an ETHERNET network is available, a building surface area of 200 to 400 m^2 can be covered with one Wireless LAN Access Point BSC-BAP.

The GFVS-Safe is equipped with a WLAN antenna to permit wireless WLAN communication inside the building with notebooks, tablet PCs and/or smartphones. A notebook can also be connected by cable.

If no internet access is available, a tablet PC and/or smartphone can be connected to a WLAN router working only internally. However, voice recognition requires internet access.

For external communication (M2M), the GFVS-Safe is equipped as standard with a GSM modem. Recognisable by the second antenna for communication over the GSM mobile network.

Provided an internet access exists, it permits external access by smartphone and/or tablet PC for visualisation and control. This is free of charge on the building side. However, smartphones should have a flat rate. Very simple and secure registration using **Eltako quickcon® technology.** If no internet access exists, the data communication packet FVS-Comm is required to permit external access.

GSM is the Global System for Mobile Communications which is used for mobile radio (D and E networks in Germany) and to exchange data packets

Technical data	
CPU	Intel® Atom N270 1.6 GHz
chip set	Intel® 945GSE
RAM	1 GB SO-DDRII RAM 800 MHz
hard disk	2.5" HDD SATA 160 GB
ports left	1 x serial port, 3 x USB 2.0
ports right	1 x DVI-I (VGA via adapter), 1 x USB 2.0, 1 x GSM antenna 2 x Intel LAN 10/100/1000 Mbit, 2 x audio 6-channel HD, 1 x WLAN 54 MBit
power consumption	approx. 10 watts (standby), approx. 14 watts (idle), approx. 17 watts (full load)
ventilation	silent, passive cooling
dimensions (HxWxT)	2 x 26 x 18 cm
wall mount	VESA standard
weight	ca. 1.25 kg

GFVS-Safe	Eltako Wireless Building computer	EAN 4010312315019	**998,00 €/pc.**

Recommended retail prices excluding VAT.

GFVS 3.0





FAM-USB
(included in the scope of supply of the server GFVS-Safe)



BSC-BAP

Wireless Visualisation and Control Software GFVS 3.0. Included in the scope of supply of the server GFVS-Safe.

The wireless receiver FAM-USB with USB connection is required for reception at the server GFVS-Safe and to send wireless telegrams from the server.

LAN connections additionally require at least one LAN access point BSC-BAP for server reception and to transmit wireless telegrams from the server.

An app to connect a tablet PC to the GFVS software on the GFVS-Server is also included as well as an app to connect up to four smartphones.

Download the apps from the Google Android Store. Apps for iPhone and iPad are undergoing certification.

- two language system in German and English with simple switchover
- status feedbacks can be integrated from most actuators in Series 14, 61 and 70
- appealing free operating apps for smartphone and tablet PC
- 5 clients included in the system scope of supply for direct control by smartphone and tablet
- voice control of apps over internet access
- direct communication over M2M via mobile radio network
- automatic data backup of the entire system
- recovery mode to restore system backups
- visualisation software with control functions for:
  - control and dim light on/off
  - control roller shutters/blinds/awnings
  - control temperature in individual rooms
  - light scenes
  - time-controlled astro functions
  - register and control by email
  - evaluate electricity meters via the energy cockpit with currency selection
  - surveillance functions with up to 5 cameras
  - hotline free of charge

Performance features	GFVS 3.0
Number of supported sensors and energy meter transmitter modules	unlimited
Number of supported actuators	unlimited
Number of supported clients	5
Number of supported cameras (resolution 1280x1024)	5 (3)
Number of supported timers	unlimited
Supports BSC-BAP	unlimited
SQL database in scope of delivery	✓
Sends text messages/e-mails	✓
Voice control	✓
Supports Eltako apps	✓
256 bit encryption	✓

BSC-BAP

min



Wireless LAN Access Point with ETHERNET interface for operation with a server GFVS-Safe in conjunction with the Wireless Building Visualisation and Control Software GFVS 3.0.

100 MBit LAN.
Delivery including configuration software and power supply unit.
The BSC-BAP receives all wireless telegrams from the Eltako wireless network from a building area of approx. 200 to 400 m² and forwards them via ETHERNET to the GFVS software server.
It also transmits wireless telegrams at the instigation of the software in the Eltako wireless network.
Housing dimensions lxwxh: 110x75x25 mm.

BSC-BAP	Wireless LAN access point	EAN 4010312302040	**298,00 €/pc.**

FAM-USB

min



Wireless antenna module (receiver and transmitter) with USB port to operate a server FVS-Safe in conjunction with the Wireless Building Visualisation and Control Software GFVS 3.0. Included in the scope of supply of the server GFVS-Safe.

USB port type A with 1m connecting cable. SMA socket for enclosed small antenna.
When a larger wireless antenna FA250 or FA200 is connected in an optimised position, the transmit/receive range is significant increased.
It is only permitted to connect a high performance receive antenna FA200 if wireless signals are only received and not transmitted.
Housing dimensions lxwxh: 78x40x22 mm.

WEEE registration number DE 30298319

FAM-USB	Wireless USB receiver/transmitter	EAN 4010312305003	**71,70 €/pc.**

EATON 3S 550 DIN



Uninterruptible power supply unit USV for professional applications, 550 VA/330 W.

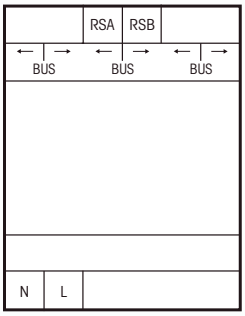
3 socket outlets with overvoltage protection and rechargeable battery backup (USP), 3 socket outlets only with overvoltage protection. Automatic switchover from mains to battery mode. Replaceable batteries. With USB and LAN ports to configure automatic PC logout.
Loud warning signal in case of power failure. Simple wall mounting system.
Automatic battery recharging with fault display.
10 to 20 minutes power supply guaranteed at full charge of 330 W. When loaded with a GFVS-Safe, only 17 watts are required and this produces a much longer time of uninterruptible power supply.

EATON 3S 550 DIN	Uninterruptible power supply unit	EAN 4010312315002	**118,00 €/pc.**

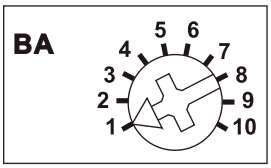
Recommended retail prices excluding VAT.

FGSM14





Mode switch



Standard setting ex works.

Wireless GSM module for the Eltako RS485 bus. Bidirectional. Standby loss max. 2 Watt. GSM antenna for German D and E networks is contained in the scope of supply.

DIN rail mounted device for fitting on mounting rail DIN-EN 60715 TH35.
3 modules = 54 mm wide, 58 mm deep.

The GSM module links smartphones directly to the bus over the mobile radio network. This is an easy way to address up to 16 Series 14 actuators on the same RS485 bus encrypted using the Eltako app. These report their status. Additionally 8 more status messages, for example for temperatures and error messages, are possible. A status overview takes place immediately when the app is activated in the smartphone.

Very simple and secure registration using **Eltako quickcon® technology.**

Download the app from the Google Android Store. The iPhone app is undergoing certification.

Power is supplied by an integrated switch mode power supply unit independent from the bus power supply. This requires a 230 V supply voltage.

If the GSM receiver is not installed at the same place in a distributor containing Series 14 actuators, the bus is connected to a bus coupler FBA14 using a 2-wire screened bus line (e.g. telephone line).

The price includes a data flat rate for 2 years. An enclosed application form for commissioning has to be completed and submitted. The activation takes place within a few hours. Access contracts are offered automatically.

February 2013.

FGSM14	Wireless GSM module	EAN 4010312314098	**419,00 €/pc.**

Recommended retail prices excluding VAT.

Additional Licenses FVS-Client
Communication Packet FVS-Comm

FVS-Client



Additional licenses FVS-Client-1 or FVS-Client-5 permit the expansion of GFVS-Safe by external access (clients).

In basic equipment level, GFVS 3.0 already supports 5 clients to connect a tablet PC as well as up to four smartphones.

For iPhone, iPad and all mobile phones equipped with Android software, apps can be downloaded free of charge from the Internet shops of Apple and Google.

The clients are then capable of visualising, controlling and accessing installed USB and IP cameras. Authentification and data transmission are encrypted.

FVS-Client-1	to activate one additional client	EAN 4010312311110	**39,00 €/pc.**
FVS-Client-5	to activate five additional clients	EAN 4010312312964	**156,00 €/pc.**

FVS-Comm



Data communication packet M2M for the GFVS-Safe Server.
With a data flat rate for 2 years.

Provided an internet access exists, external communication between the GFVS-Safe and the software GFVS 3.0 and smartphones and tablet PCs are charged by their flat rates. FVS-Comm is required for this although it is connected over the GSM antenna of the GFVS-Safe on the building side.

However, if data exchange is without internet access, the standard M2M card running FVS-Comm integrated in the GSM modem must be activated to exchange data over the mobile radio network.

The FVS-Comm therefore receives prepared M2M contracts with a data flat rate for two years. Access contracts are offered automatically.

GSM is the Global System for Mobile Communications which is used for mobile radio (D and E networks in Germany) and to exchange data packets. The M2M card is activated shortly after receipt of a data flat rate contract.

This communication is encrypted to a very high standard and is very simple to configure with the new **Eltako quickcon® technology.**

FVS-Comm	Communication packet for GFVS-Safe	EAN 4010312314265	**398,00 €/pc.**

Recommended retail prices excluding VAT.



Eltako Smart Home is not a standalone solution like many smart home systems on the market. All components are genuine parts from the successful Eltako Wireless product line. They communicate within the Eltako Wireless Building by means of telegrams that are formatted using the world-wide standard of the EnOcean Alliance. EnOcean manufactures the transmitter modules and wireless chips in Germany.

The Eltako Wireless catalogue of over 200 pages contains sensors and actuators for all applications. For more details, visit **www.eltako.de.**

Installation by a trained electrician guarantees proper functioning.

Smart Home means a house which is fast and clever. But what is the purpose? Does it only mean fast and clever operation? The Eltako Smart Home solution is a complete sustainable system that includes everything from **installation, start-up** through to later **retrofitting** and **expansion.**

Wireless
No wires to lay when installing switch points and sensors – no plaster or paint work needed.

Simple retrofitting and expansion
Thanks to decentralised switch actuators additional functions can be integrated in the building installations.

Biologically harmless
Wireless signals are only sent when a sensor is operated. The wireless signals has a high frequency field strength that is 100 times smaller than the switching sparks of a 100 W bulb.

Energy efficient
Most sensors and buttons draw their energy from mechanical operation or from a light source. Actuators have a very low standby loss.

Sustainable
Eltako has been one of the leading manufacturers of switchgear on the market from over 63 years – this means that Eltako Wireless will still be sold on the European market in decades to come.

Needs oriented
Installation compared with conventional systems is cost-neutral and even young home owners can equip their homes early on. Additional convenient solutions and expansions can be installed without structural modifications to the building.

Standardised
With over 300 EnOcean Alliance members world-wide, the EnOcean wireless protocol has become established in many sectors and industries and has therefore become a standard.

Smartphone link
A smartphone can control consumers and functions, provided there is an internet access. Camera shots and consumer data are sent in parallel to the smartphone on request.

Smart Home Central Unit GFVS-Touch



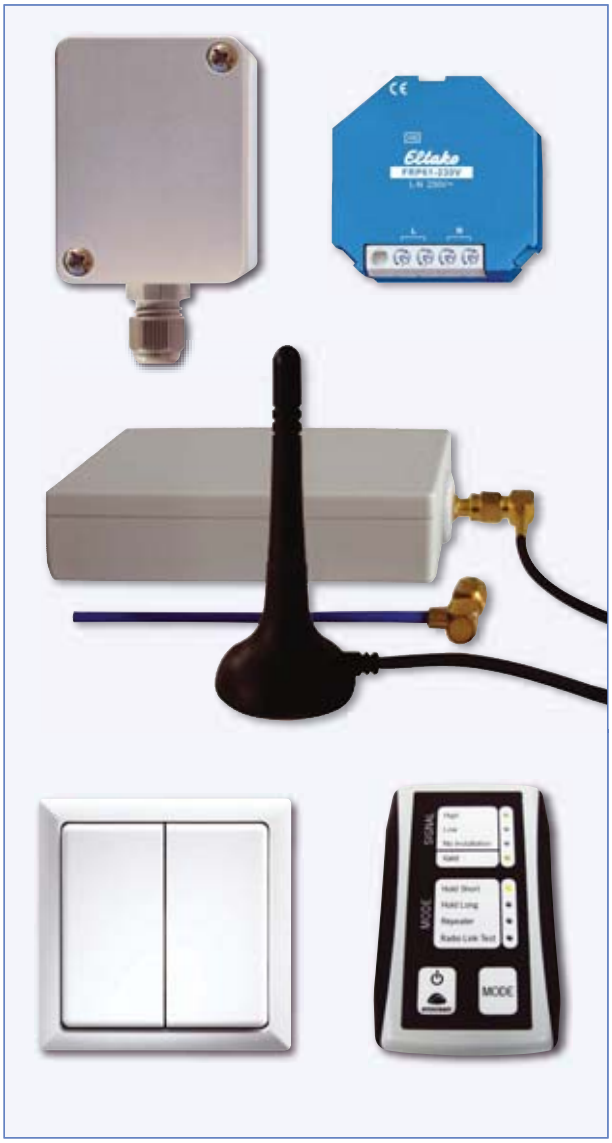
The Smart Home Central Unit – Switch on, configure and use!

15.6" monitor PC GVS-Touch for continuous duty with integrated wireless antenna module and ready installed Wireless Visualisation and Control Software GFVS 3.0 for all the necessary sensors and actuators, 5 clients, 3 cameras and any number of sensors, actuators and timers. Smartphone link over WLAN. With stand for standalone installation or for mounting on the wall.

The **VESA mount** for wall mounting can be ordered separately.

GFVS-Touch	Smart Home Central Unit Touch PC with GFVS 3.0	EAN 4010312315033	**698,00 €/pc.**
VESA mounts	For mounting GFVS-Touch on the wall	EAN 4010312312629	**26,00 €/pc.**

Recommended retail prices excluding VAT.



NEW EnOcean KNX gateway KNX ENO 63	Z-0
Wireless repeater FRP61-230V	Z-1
Wireless repeater FRP61/8-24V UC	Z-1
NEW Wireless socket repeater FSRP-230V	Z-1
Wireless repeater FRP70-230V	Z-2
Outdoor wireless repeater FARP60-230V	Z-2
Switching power supply units FSNT12 and FSNT61	Z-3
Wireless antennas FA250, FA200, HF ground FHM175 and extension cables FAV5 and FAV10	Z-4
NEW Wireless antenna FAG63	Z-5
Level meter EPM300	Z-6
Screws and rawl plugs S+D 25	Z-6
Housing for operating instructions GBA14	Z-6
Short-stroke pushbuttons KT	Z-7
NEW Socket strips MWC	Z-10

KNX ENO 634



Bidirectional gateway between EnOcean and EIB/KNX bus from Weinzierl.

The KNX ENO 634 acts as a bidirectional gateway between EnOcean Wireless and the KNX/ EIB bus. Telegrams can be transmitted by EnOcean wireless sensors to the KNX bus, for example to control KNX actuators. Similarly, EnOcean wireless actuators can be controlled by KNX.

In addition the gateway offers logic and control functions and comprises an integrated wireless repeater. The KNX ENO 634 has over **32 channels,** each of which can be assigned one of the following functions:

switch, dim, blind and roller shutter control, light scenes, window handles, window contacts, hotel card switch, pressure switch, pushbutton, room control units, temperature, humidity, brightness, motion, CO_2, gas, water and electricity meter data, HVAC drive for actuator valves, time switch, switch-on delay, time-lag switch, two-point (byte and float), continuous (float), heat demand request, logic function gate (e.g. AND, OR, XOR), impulse switch (toggle), trigger, value transmitter, monitor (watchdog).

The KNX ENO 634 and the channels **are configured** over the KNX bus using the ETS software. The buttons and the display on the device are used to teach-in the wireless components.

Surface mounting by means of a 55 mm flush mount box. Power is supplied over the KNX bus.

The repeater function is designed to bridge large distances between sensors and actuators. The KNX ENO 63x is a Level 1 wireless repeater.

The integrated **bus monitor function** supports direct system diagnosis on the device. The device can display both EnOcean wireless telegrams and KNX telegrams.

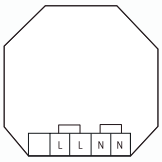
KNX ENO 634	EnOcean KNX gateway	EAN 4010312315026	**428,00 €/pc.**

Recommended retail prices excluding VAT.

FRP61-230V

min





1 and 2 level wireless repeater. Only 0.8 watt standby loss.

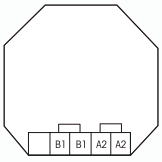
For installation. 45 mm long, 55 mm wide, 33 mm deep.
Supply voltage 230 V.
This repeater is only needed if the building conditions do not allow undisturbed reception or the distance between the wireless pushbutton and receiver is too great.
The 1-level mode is activated ex works. Only the signals are received, tested and retransmitted at full transmit power. Wireless signals from other repeaters are ignored to reduce the data volume.
Switchover to 2-level mode is carried out by removing the cover (lightly press the latching clips) and repositioning the jumper flush right. In this setting, wireless signals from other 1-level repeaters are also processed. A signal may therefore be received and amplified twice.
Wireless repeaters need not be taught-in. They receive and amplify signals from all wireless sensors within their reception area.

FRP61-230V	Wireless repeater	EAN 4010312300251	**46,10 €/pc.**

FRP61/8-24V UC

min





1 and 2 level wireless repeater. Standby loss only 0.3 watt (at 8 V UC), 0.5 watt (at 12 V UC) and 1 watt (at 24 V UC).

For installation. 45 mm long, 55 mm wide, 18 mm deep.
Supply voltage 8 to 24 V UC.
See the detailed description like FRP61-230V.

FRP61/8-24V UC	Wireless repeater	EAN 4010312302330	**46,10 €/pc.**

FSRP-230V

min



1- and 2-level wireless socket repeater. Only 0.7 watt standby loss.

Adapter for German fused safety socket. With increased shock protection.
This repeater is only needed if the building conditions do not allow undisturbed reception or the distance between the wireless pushbutton and receiver is too great.
The 1-level mode is activated ex works. Only the signals are received, tested and retransmitted at full transmit power. Wireless signals from other repeaters are ignored to reduce the data volume.
To switch to the 2-level mode, the *level 2* button has to be pressed for 3 seconds. Now the wireless signals of another 1-level repeater are being processed. Thereby a signal can be received and amplified with a maximum of two times. To return back to the 1-level mode, the *level 1* button has to be pressed for 3 seconds.
Wireless repeaters need not be taught-in. They receive and amplify signals from all wireless sensors within their reception area.
The LED indicates recieved wireless telegrams by briefly flashing during operation.

FSRP-230V	Wireless socket repeater	EAN 4010312314999	**87,70 €/pc.**

Recommended retail prices excluding VAT.

FRP70-230V

min





FA250

1 and 2 level wireless repeater with small antenna and with antenna FA250. Only 0.6 watt standby loss. A wireless antenna FA250 is connectable as required.

Mounting in the 230V power supply cord, e.g. in false ceilings.
100mm long, 50mm wide and 25mm deep.

This repeater is only needed if the building conditions prevent undisturbed reception or the distance between the wireless pushbutton and receiver is too great.

Antenna FA250 with 250cm cable is connectable instead of the enclosed antenna.
The range can be extended considerably by placing it in the optimum position.

The 1-level mode is activated ex works. Only the signals from sensors and actuators are received, tested and retransmitted at full transmit power. Wireless signals from other repeaters are ignored to reduce the data volume.

The rotary switch on the side is for changing over to 2-level mode. In this setting, wireless signals from other 1-level repeaters are also processed. A signal may therefore be received and amplified twice.

Wireless repeaters need not be taught-in. They receive and amplify signals from all wireless sensors within their reception area.

The LED under the rotary switch blinks briefly to indicate all the wireless signals detected.

FRP70-230V	Wireless repeater	EAN 4010312306482	**80,80 €/pc.**
FA250	Wireless antenna with 250cm cable	EAN 4010312300244	**19,90 €/pc.**

FARP60-230V

min IP 54



Outside wireless repeater 1 and 2 levels, 60x46 mm, 30 mm deep. Only 0.7 watt standby loss.

Supply voltage 230V.

This repeater is only needed if the building conditions prevent undisturbed reception or the distance between the wireless pushbutton and receiver is too great.

The 1-level mode is activated ex works. Only the signals from sensors and actuators are received, tested and retransmitted at full transmit power. Wireless signals from other repeaters are ignored to reduce the data volume.

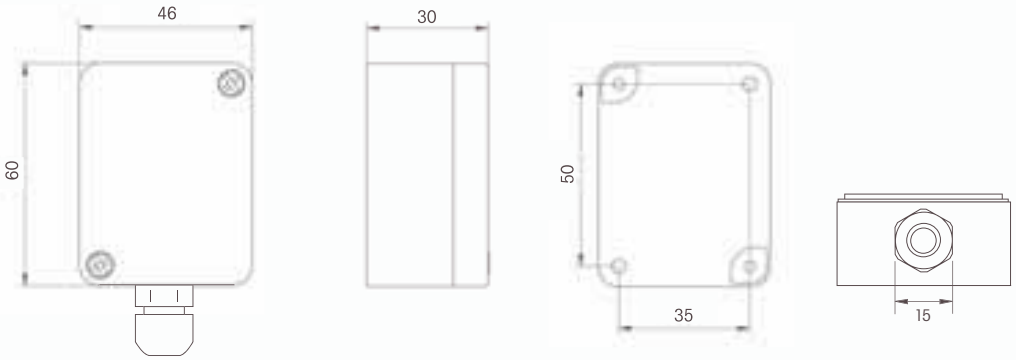
Switchover to 2-level mode is carried out by removing the cover (loosen two screws on the front panel) and repositioning the jumper flush right. In this setting, wireless signals from other 1-level repeaters are also processed. A signal may therefore be received and amplified twice.

A red LED blinks briefly to indicate all the wireless signals detected.

Wireless repeaters need not be taught-in. They receive and amplify signals from all wireless sensors within their reception area.

On the underside there is an M12 screw for a waterproof mains connection.
The protection class is IP54, the allowable ambient temperature is -20°C to +55°C.

For screw mounting.



FARP60-230V	Outdoor wireless repeater	EAN 4010312310137	**65,70 €/pc.**

Recommended retail prices excluding VAT.

FSNT12-12V/12W

min





Rated capacity 12 W. Standby loss 0.2 watt only.

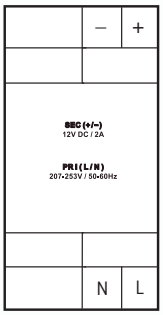
Modular device for DIN 60715 TH35 rail mounting. 1 module = 18 mm wide, 58 mm deep.
At a load of more than 50 % of the rated capacity and always if there are adjacent switching power supply units from 12 W rated capacity and if there are dimmers a ventilation clearance of 1/2 module must be maintained with the spacers DS12 on both sides.
Input voltage 230 V (-20 % up to +10 %). Efficiency 83 %.
Stabilised output voltage ±1 %, low residual ripple. Short-circuit proof.
Overload protection and over-temperature switch-off by means of swichting off with automatic switching-on after fault clearance (autorecovery function).
For redundant operation 2 switching power supply units can be connected in parallel.

FSNT12-12V/12W	Switching power supply unit	EAN 4010312313151	**35,50 €/pc.**

FSNT12-12V/24W

min





Rated capacity 24 W. Standby loss 0.2 watt only.

Modular device for DIN 60715 TH35 rail mounting. 2 modules = 36 mm wide, 58 mm deep.
At a load of more than 50 % of the rated capacity and always if there are adjacent switching power supply units from 12 W rated capacity and if there are dimmers a ventilation clearance of 1/2 module must be maintained with the spacers DS12 on both sides.
Input voltage 230 V (-20 % up to +10 %). Efficiency 83 %.
Stabilised output voltage ±1 %, low residual ripple. Short-circuit proof.
Overload protection and over-temperature switch-off by means of swichting off with automatic switching-on after fault clearance (autorecovery function).
For redundant operation 2 switching power supply units can be connected in parallel.

FSNT12-12V/24W	Switching power supply unit	EAN 4010312313176	**44,90 €/pc.**

FSNT61-12V/6W

min





Rated capacity 6 W. Standby loss 0.1 watt only.

For installation. 45 mm long, 55 mm wide, 33 mm deep.
Input voltage 230 V (-20% up to +10%). Efficiency 81%.
Stabilised output voltage ±1%, low residual ripple. Short-circuit proof.
Overload protection and over-temperature switch-off by means of swichting off with automatic switching-on after fault clearance (autorecovery function).

FSNT61-12V/6W	Switching power supply unit	EAN 4010312313145	**30,00 €/pc.**

FSNT61-24V/6W

min





Only required for the weather data transmitter module FWS61

Rated capacity 6 W. Standby loss 0.1 watt only.

For installation. 45 mm long, 55 mm wide, 33 mm deep.
Input voltage 230V (-20 % up to +10 %).
Efficiency 82 %. Stabilised output voltage ±1%, low residual ripple.
Short-circuit proof.
Overload protection and over-temperature switch-off by means of swichting off with automatic switching-on after fault clearance (autorecovery function).

FSNT61-24V/6W	Switching power supply unit	EAN 4010312313169	**30,00 €/pc.**

Recommended retail prices excluding VAT.

FA250, FHM175 and FA200



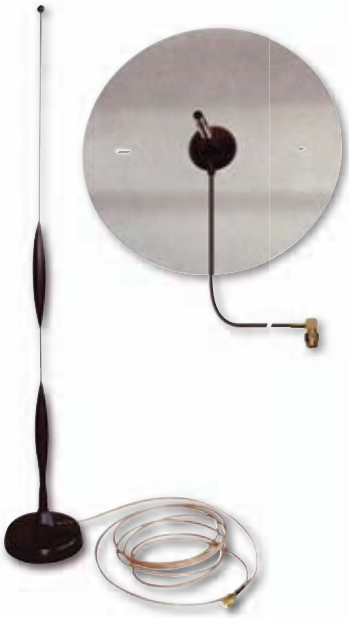
Wireless antenna FA250 with magnetic base and 250 cm cable

The small enclosed wireless antenna of the wireless antenna modules and several wireless transmitter modules are replaceable by this larger antenna to receive and transmit wireless signals to or from metal control cabinets.

It is mounted on the magnetic base externally and the 250 cm cable is routed inside the cabinet. The best performance is achieve by attaching the magnetic foot on a metal surface.
The transmit and receive ranges are almost spherical around this antenna.

Antenna height, only 9.6 cm. With SMA screw terminal.

Extension by 5 m using wireless antenna extension FAV5 or by 10 m using FAV10.



HF ground FHM175 for the HF wireless antenna FA250, aluminium disc anodized, 4 mm thick, 175 mm diameter.

This HF ground optimizes the receiver and transmitter performance of the HF antenna FA250 since the diameter has twice the length of the antenna plus its bar diameter.
A deepened steel disc with the diameter of the magnetic antenna coil is pressed into the center. Thereby the FA250 can easily be centered.
The aluminium disc is formed with a hole and a slot to be fixed to the wall.

High-performance receive antenna FA200 with magnetic base and 200 cm cable

This antenna has a radial gain of up to 7dBi and therefore has a much greater range than wireless antenna FA250. As a trade-off the receive power along the antenna axis is considerably lower. This must be taken into consideration when positioning the antenna. **It may only be used as a receive antenna.**

Antenna height 45 cm. With SMA screw terminal.

Extension by 5 m using wireless antenna extension FAV5 or by 10 m using FAV10.

FA250	Wireless antenna with 250 cm cable	EAN 4010312300244	**19,90 €/pc.**
FHM175	HF ground for FA250	EAN 4010312313121	**34,00 €/pc.**
FA200	High-performance receive antenna with 200 cm cable	EAN 4010312303306	**64,70 €/pc.**
FAV5	Antenna extension 5 m	EAN 4010312302897	**23,90 €/pc.**
FAV10	Antenna extension 10 m	EAN 4010312302903	**26,80 €/pc.**

Recommended retail prices excluding VAT.

FAG63



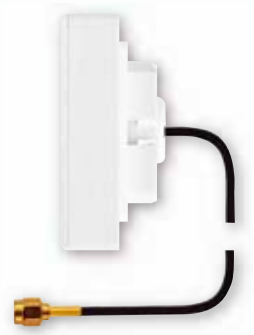


Image without frame

Wireless antenna in the housing for surface mounting 84x84x30 mm or mounting in 55x55 mm or 63x63 mm switch system. With 100 cm cable.

The scope of supply includes a frame in Q-Design QRR1, an attachment frame and one mounting plate HP. Designed to fit in the recesses of 55 and 63 frames additionally with one ZR intermediate frame in the same colour.

We recommend sheet metal countersunk screws 2.9x25 mm, DIN 7982 C, for screw connections on 55 mm switch boxes. See Accessories on page Z-6.

In the housing there is a wireless antenna with ground plane and permanently attached antenna cable, 100 cm long, with SMA screw.

FAG63-rw	Wireless antenna pure white	EAN 4010312314838	**23,90 €/pc.**

Recommended retail prices excluding VAT.

EPM300



EnOcean level meter to assist in installation of wireless sensors and wireless actuators.

For range analysis and for evaluation of the signal quality of wireless sensors respectively for detecting of interferences.
2 AA/LR06 batteries are additionally necessary.
Switch on and off with the ⏻ button and press for 2 seconds.
The desired operating condition is selected with the MODE button.
Hold Short indicates the signal strength of an EnOcean wireless telegram for 1 second.
Hold Long indicates the signal strength of an EnOcean wireless telegram for 60 seconds.
Repeater repeats an EnOcean wireless telegram.
Radio Link Test transmits an individual EnOcean wireless telegram every 2 seconds whose quality at the receiving station can be measured with a second EPM300.

WEEE-Reg.-Nr. DE 30298319

EPM300	Level meter	EAN 4010312313039	**99,20 €/pc.**

S+D 25



25 pcs screws and rawl plugs to fit the mounting plate for wireless pushbuttons. Screws also for fitting on UP boxes.

Contents: 25 pcs countersunk sheet metal screws with cross head 2.9x25 mm DIN 7982 C, stainless steel A2 and 25 pcs Fischer rawl plugs with lip SX5, 25 mm long.

The screw head fits exactly (in height and diameter) between the mounting plate of the wireless pushbutton and the Eltako frame.

Moreover, the screws are also suitable for fixing devices on UP switch boxes in the screw sleeves there.

S+D 25	25 screws and rawl plugs 25 mm	EAN 4010312906231	**4,10 €/pc.**

Housing for operating instructions GBA14



Modular device for DIN-EN 60715 TH35 rail mounting.
1 module = 18 mm wide, 55 mm deep.

Housing without front panel to insert operating instructions.

GBA14	Housing for operating instructions	EAN 4010312906422	**1,50 €/pc.**

Recommended retail prices excluding VAT.

KT4F



Flat short-stroke pushbutton 4 NO contacts 8 A/250 V AC, contact gap 0.5 mm, 80x80 mm external dimensions, internal frame dimensions 63x63 mm, 15 mm high.

The scope of supply comprises the frame R1F, a flat rocker WF, a flat double rocker DWF (all same colour), an attachment frame BRF, the mounting base HP and the pushbutton module.

Fitted using a 55 mm switch box.

We recommend sheet metal countersunk screws 2.9x25 mm, DIN 7982 C, for screw connections on 55 mm switch boxes. See Accessories on page Z-6.

The unprinted double rocker is snapped onto the pushbutton module at the factory. If the double rocker is replaced by the large unprinted rocker, remove the rocker halves by pulling off to the front. Do not bend towards the middle. Then snap the large rocker so that the markings 0 and I on the back line up with the same markings on the pushbutton module.

The Eltako frame can be replaced on installation at any time by a design frame with internal dimensions 63x63 mm from other manufacturers.

KT4F-ws	Flat short-stroke pushbutton white	EAN 4010312303108	**25,10 €/pc.**
KT4F-rw	Flat short-stroke pushbutton pure white	EAN 4010312303122	**25,10 €/pc.**
KT4F-wg	Flat short-stroke pushbutton pure white glossy	EAN 4010312303153	**25,10 €/pc.**
KT4F-sz	Flat short-stroke pushbutton black	EAN 4010312303146	**25,10 €/pc.**
KT4F-an	Flat short-stroke pushbutton anthracite	EAN 4010312303177	**25,10 €/pc.**
KT4F-al	Flat short-stroke pushbutton coated/aluminium paint	EAN 4010312311516	**32,30 €/pc.**

Currently supplied colours of the short-stroke pushbuttons KT4F and their order abbreviations:



Recommended retail prices excluding VAT.

KT55



Short-stroke pushbutton 4 NO contacts 8 A/250 V AC, contact gap 0.5 mm, 80x80 mm external dimensions, internal frame dimensions 55x55 mm, 15 mm high.

The scope of supply comprises the frame R, one large rocker W55, one double rocker DW55 (all same colour), the mounting base HP and the pushbutton module.

Fitted using a 55 mm switch box.

We recommend sheet metal countersunk screws 2.9x25 mm, DIN 7982 C, for screw connections on 55 mm switch boxes. See Accessories on page Z-6.

The unprinted double rocker is snapped onto the pushbutton module at the factory.
If the double rocker is replaced by the large unprinted rocker, remove the rocker halves by pulling off to the front. Do not bend towards the middle. Then snap the large rocker so that the markings 0 and I on the back line up with the same markings on the pushbutton module.

The Eltako frame can be replaced on installation at any time by a design frame with internal dimensions 55x55 mm from other manufacturers.

KT55-ws	Short-stroke pushbutton 55x55 mm, white	EAN 4010312311554	**25,10 €/pc.**
KT55-rw	Short-stroke pushbutton 55x55 mm, pure white	EAN 4010312311592	**25,10 €/pc.**
KT55-wg	Short-stroke pushbutton 55x55 mm, pure white glossy	EAN 4010312311608	**25,10 €/pc.**
KT55-sz	Short-stroke pushbutton 55x55 mm, black	EAN 4010312311578	**25,10 €/pc.**
KT55-an	Short-stroke pushbutton 55x55 mm, anthracite	EAN 4010312311585	**25,10 €/pc.**
KT55-al	Short-stroke pushbutton 55x55 mm, coated/aluminium paint	EAN 4010312311530	**32,30 €/pc.**

Currently supplied colours of the short-stroke pushbuttons KT55 and their order abbreviations:



Recommended retail prices excluding VAT.

KT4



Short-stroke pushbutton 4 NO contacts 8 A/250 V AC, contact gap 0.5 mm, 80x80 mm external dimensions, internal frame dimensions 55x55 mm, 15 mm high.

The scope of supply comprises the frame R, one large rocker W, one double rocker DW, one intermediate frame ZR (all same colour), the mounting base HP and the pushbutton module.

Fitted using a 55 mm switch box.

We recommend sheet metal countersunk screws 2.9x25 mm, DIN 7982 C, for screw connections on 55 mm switch boxes. See Accessories on page Z-6.

The unprinted double rocker is snapped onto the pushbutton module at the factory.
If the double rocker is replaced by the large unprinted rocker, remove the rocker halves by pulling off to the front. Do not bend towards the middle. Then snap the large rocker so that the markings 0 and I on the back line up with the same markings on the pushbutton module.

The Eltako frame can be replaced on installation at any time by a design frame with internal dimensions 55x55 mm from other manufacturers.

KT4-ws	Short-stroke pushbutton white	EAN 4010312302910	**25,10 €/pc.**
KT4-rw	Short-stroke pushbutton pure white	EAN 4010312303047	**25,10 €/pc.**
KT4-wg	Short-stroke pushbutton pure white glossy	EAN 4010312303078	**25,10 €/pc.**
KT4-sz	Short-stroke pushbutton black	EAN 4010312303061	**25,10 €/pc.**
KT4-an	Short-stroke pushbutton anthracite	EAN 4010312303092	**25,10 €/pc.**
KT4-al	Short-stroke pushbutton coated/aluminium paint	EAN 4010312311486	**32,30 €/pc.**

Currently supplied colours of the short-stroke pushbuttons KT4 and their order abbreviations:



Recommended retail prices excluding VAT.

MWC32



WISIO ECO socket strip from BSC with 2 channels for 3 blue and 2 grey 230 V sockets. Incandescent lamps up to 2500 watts and 230 V halogen lamps up to 1250 watts. With black connecting cable 160 cm long.

The blue and grey sockets can be switched together or separately depending on the teach-in.

If Eltako wireless pushbuttons are used for switch on/off, they must be mounted rotated through 180° so that switch-on is by pressing the top pushbutton and switch-off is by pressing the bottom pushbutton like other Eltako actuators.

MWC32	Socket strip	EAN 4010312314814	**101,80 €/pc.**

MWC432



WISIO ECO socket strip from BSC with 2 channels for 4 blue and 3 grey 230 V sockets. Additional 2 black sockets with continuous voltage. Incandescent lamps up to 2500 watts and 230 V halogen lamps up to 1250 watts. With black connecting cable 160cm long. Integrated over-voltage protection.

The blue and grey sockets can be switched together or separately depending on the teach-in.

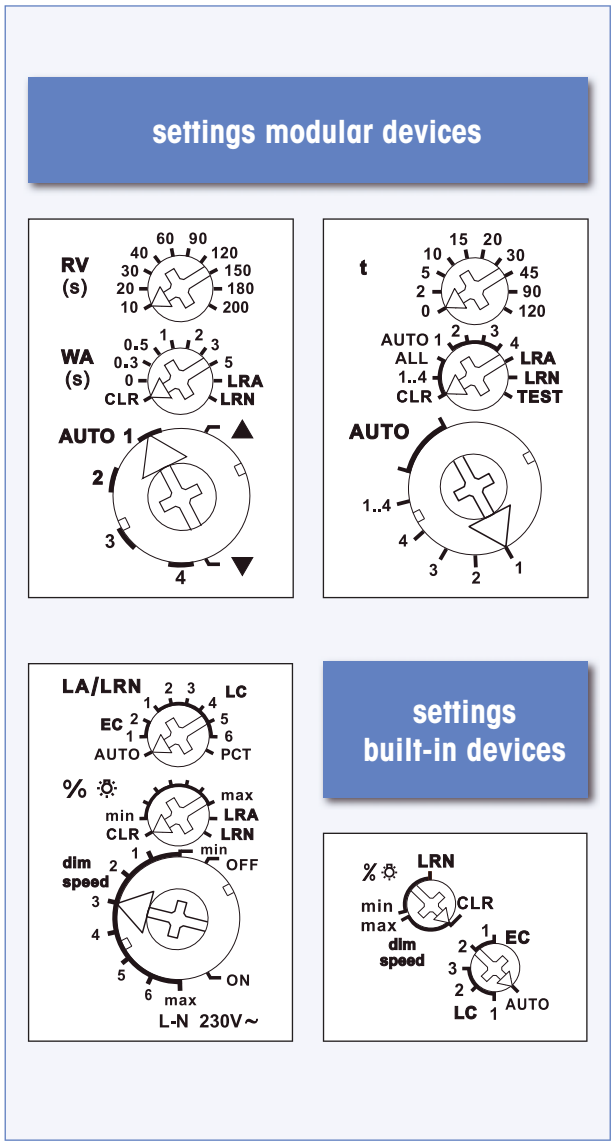
Overvoltage protection SPD Type 3 according to EN 61643-11.
Rated discharge current (8/20) In: L + N-PE 5000A, L-N 2500A.
Rated discharge voltage Uoc: 5000V.

If a fault occurs, an acoustic signal sounds and the red LED function display goes out.
The initial state is restored by replacing the microfuse. Replacement fuse is in the end caps.

If Eltako wireless pushbuttons are used for switch on/off, they must be mounted rotated through 180° so that switch-on is by pressing the top pushbutton and switch-off is by pressing the bottom pushbutton like other Eltako actuators.

MWC432	Socket strip	EAN 4010312314821	**143,80 €/pc.**

Recommended retail prices excluding VAT.



Technical data switching actuators for the Eltako RS485 bus	T-0
Technical data switching actuators for installation	T-1
Chart: wireless sensors that can be taught-in in wireless actuators	T-2
Contents of Eltako wireless telegrams	T-3

Contacts	FSR14-4x, FSB14, FHK14, F4HK14	FUD14, FUD14/800W [7]	FSG14/1-10V [b]	FSR14-2x[b], FMS14, FTN14[b] FFR14, FMZ14, FZK14 [b]	FSR14SSR
Contact material/contact gap	$AgSnO_2$/0.5mm	Power MOSFET	$AgSnO_2$/0.5mm	$AgSnO_2$/0.5mm	Opto-Triac
Test voltage control connections/contact	–	–	–	2000V	4000V
Rated switching capacity each contact	4A/250V AC	–	600VA [5]	16A/250V AC; FMZ14: 10A/250V AC	up to 400W [6]
Incandescent lamps and halogen lamp load 230V [2]	1000W I on ≤ 10A/10ms	up to 400W; FUD14/800W: up to 800W [1] [3] [4]	–	2000W I on ≤ 70A/10ms	up to 400W [6]
Fluorescent lamp load with KVG* in lead-lag circuit or non compensated	500VA	–	–	1000VA	–
Fluorescent lamp load with KVG* shunt-compensated or with EVG*	250VA, I on ≤ 10A/10ms	–	600VA [5]	500VA	up to 400VA [6]
Compact fluorescent lamps with EVG* and energy saving lamps ESL	up to 200W [9]	up to 400W [9] [1]	–	up to 400W [9]	up to 400W [6] [9]
Inductive load cos φ = 0,6/230V AC inrush current ≤ 35A	650W [8]	–	–	650W [8]	–
230V LED lamps	up to 200W [9]	up to 400W [9] [1]	–	up to 400W [9]	up to 400W [6] [9]
Max. switching current DC1: 12V/24V DC	4A	–	–	8A (not FTN14 and FZK14)	–
Life at rated load, cos φ = 1 or for incandescent lamps 500W at 100/h	$>10^5$	–	$>10^5$	$>10^5$	∞
Service life at rated load, cos φ = 0,6 at 100/h	$>4x10^4$	–	$>4x10^4$	$>4x10^4$	∞
Max. operating cyles	10^3/h	–	10^3/h	10^3/h	10^3/h
Maximum conductor cross-section (3-fold terminal)	6mm² (4mm²)	6mm² (4mm²)	6mm² (4mm²)	6mm² (4mm²)	6mm²
Two conductors of same cross-section (3-fold terminal)	2.5mm² (1.5mm²)	2.5mm² (1.5mm²)	2.5mm² (1.5mm²)	2.5mm² (1.5mm²)	2.5mm² (1.5mm²)
Screw head	slotted/crosshead, pozidriv	slotted/crosshead, pozidriv	slotted/crosshead, pozidriv	slotted/crosshead, pozidriv	slotted/crosshead, pozidriv
Type of enclosure/terminals	IP50/IP20	IP50/IP20	IP50/IP20	IP50/IP20	IP50/IP20
Electronics					
Time on	100%	100%	100%	100%	100%
Max./min. temperature at mounting location	+50°C/-20°C	+50°C/-20°C	+50°C/-20°C	+50°C/-20°C	+50°C/-20°C
Standby loss (active power)	0.1W	0.3W	0.9W	0.05-0.5W	0.1W
Local control current at 230V control input	–	–	–	5mA	–
Max. parallel capacitance (approx. length) of local control lead at 230V AC	–	–	–	FTN14: 0.3µF (1000m)	–

* EVG = electronic ballast units; KVG = conventional ballast units

[b] Bistable relay as relay contact. After installation, wait for short automatic synchronisation before teaching-in the wireless pushbuttons.

[1] If the load exceeds 200W, a ventilation clearance of 1/2 pitch unit to adjacent devices must be maintained.

[2] Applies to lamps of max. 150W.

[3] Per dimmer or capacity enhancer it is only allowed to use max. 2 inductive (wound) transformers of the same type, furthermore no-load operation on the secondary part is not permitted. The dimmer might be destroyed. Therefore do not permit load breaking on the secondary part. Operation in parallel of inductive (wound) and capacative (electronic) transformers is not permitted!

[4] When calculating the load a loss of 20% for inductive (wound) transformers and a loss of 5% for capacitive (electronic) transformers must be considered in addition to the lamp load.

[5] Fluorescent lamps or LV halogen lamps with electronic ballast.

[6] Applies to one contact and the sum of both contacts.

[7] Capacity increase for all dimmable lamp types with Capacity Enhancer FLUD14.

[8] All actuators with 2 contacts: Inductive load cos φ = 0.6 as sum of both contacts 1000W max.

[9] Generally applies to energy saving lamps (ESL) and 230V LED lamps. Due to different lamp electronics, switch on/off problems and a restriction in the maximum number of lamps, however, the dimming ranges may be limited depending on the manufacturer; in particular when the connected load is very low (e.g. with 5W LEDs). The dimmer switch comfort settings EC1, EC2, LC1, LC2 and LC3 optimise the dimming range, however, the maximum power is then only up to 100W. In these comfort settings, no inductive (wound) transformers may be dimmed.

If the RS485 bus lines are longer than 2m, the second terminating resistor connector must be plugged into the last actuator (included in the FAM14 scope of supply).

Eltako Wireless is based on the EnOcean wireless standard for 868MHz, frequency 868.3MHz, data rate 125kbps, modulation mode ASK, max. transmit power 7dBm (<10mW).

Compliance with: EN 61000-6-3, EN 61000-6-1 and EN 60669

Contacts	FUD61NP FUD61NPN FSUD	FUD70 FUD70S FKR70UD FLS70UD	FSR61, FMS61, FLC61, FSB61, FTN61, FMZ61, FHK61, FSR61LN, F2L61, FFR61, FZK61, FSR70, FSB70, FHK70, F2L70, FZK70, FSSA, FSVA	FSG70 FKR70/1-10 V FLS70/1-10 V	FSR61G FHK61SSR
Contact material/contact gap	Power MOSFET	Power MOSFET	$AgSnO_2$/0.5 mm [b]	$AgSnO_2$/0.5 mm [b]	Opto Triac
Spacing of control connections/contact	–	–	3 mm	–	–
Test voltage control connections/contact	–	–	2000 V	–	–
Rated switching capacity each contact	–	–	10 A/250 V AC FSR70W: 16 A/250 V AC	600 VA [4]	–
Incandescent lamp and halogen lamp load [1] 230 V, I on ≤ 70 A/10 ms	up to 300 W [2]	up to 400 W [2]	2000 W	–	up to 400 W
Fluorescent lamp load with KVG* in lead-lag circuit or non compensated	–		1000 VA	–	–
Fluorescent lamp load with KVG* shunt-compensated or with EVG*	–	–	500 VA	600 VA [4]	up to 400 VA
Compact fluorescent lamps with EVG* and energy saving lamps	up to 300 W [3] (not FUD61NP)	up to 400 W [3]	up to 400 W [3]	–	up to 400 W [3]
Inductive laod cos φ = 0.6/230 V AC inrush current ≤ 35 A	–	–	650 W [5]	–	–
Dimmable 230 V LED lamps	up to 300 W [3] (not FUD61NP)	up to 400 W [3]	up to 400 W [3]	–	up to 400 W [3]
Max. switching current DC1: 12 V/24 V DC	–	–	8 A (not NP, FSSA, FSVA and 70)	–	–
Service life at rated load, cos φ = 1 or incandescent lamps 500 W at 100/h	–	–	> 10^5	> 10^5	∞
Service life at rated load, cos φ = 0.6 at 100/h	–	–	> 4×10^4	> 4×10^4	–
Max. operating cyles	–	–	10^3/h	10^3/h	10^3/h
Maximum conductor cross-section	4 mm^2	4 mm^2	4 mm^2	4 mm^2	4 mm^2
Two conductors of same cross-section	1.5 mm^2	1.5 mm^2	1.5 mm^2	1.5 mm^2	1.5 mm^2
Screw head	slotted/cross-head	slotted/cross-head	slotted/cross-head	slotted/cross-head	slotted/cross-head
Type of enclosure/terminals	IP30/IP20	IP30/IP20	IP30/IP20	IP30/IP20	IP30/IP20
Electronics					
Time on	100 %	100 %	100 %	100 %	100 %
Max./min. temperature at mounting location	+50°C/-20°C	+50°C/-20°C	+50°C/-20°C	+50°C/-20°C	+50°C/-20°C
Standby loss (active power)	FUD61NP: 0.7 W; FUD61NPN: 0.5 W FSUD: 0.6 W	0.6 W	0.3 W - 0.9 W	1.7 W	0.7 W
Local control current at 230 V control input, only on Series 61	1 mA	–	3.5 mA; FSR61+FHK61/8-24 V UC, at 24 V DC: 0.2 mA	–	3.5 mA
Max. parallel capacitance (approx. length) of local control lead at 230 V AC	0.06 µF (200 m)	–	0.01 µF (30 m)	–	0.01 µF (30 m)

[b] Bistable relay as relay contact. After installation, wait for short automatic synchronisation before teaching-in the wireless pushbuttons.

[1] Applies to lamps of max. 150 W.

[2] Also max. 2 induction transformers of the same type (L load) and electronic transformers (C load).

[3] Generally applies to energy saving lamps (ESL) and 230 V LED lamps. Due to different lamp electronics, switch on/off problems and a restriction in the maximum number of lamps, however, the dimming ranges may be limited depending on the manufacturer; in particular when the connected load is very low (e.g. with 5 W LEDs). The dimmer switch comfort settings EC1, EC2, LC1, LC2 and LC3 optimise the dimming range, however, the maximum power is then only up to 100 W. In these comfort settings, no inductive (wound) transformers may be dimmed.

[4] Fluorescent lamps or LV halogen lamps with electronic ballast.

[5] All actuators with 2 contacts: Inductive load cos φ = 0.6 as sum of both contacts 1000 W max.

* EVG = electronic ballast units; KVG = conventional ballast units

Eltako Wireless is based on the EnOcean wireless standard for 868 MHz, frequency 868.3 MHz, data rate 125 kbps, modulation mode ASK, max. transmit power 7 dBm (< 10 mW).

Compliance with: EN 61000-6-3, EN 61000-6-1 and EN 60 669

Chart
Wireless Sensors that can be taught-in in Wireless Actuators

Sensors / Actuators	Pushbuttons and hand-held transmitters FT2S, FT4F FT4, FFT55Q, FMT55, FHS4 FHS6, FHS8 FHS12, FMH2 FMH4, FMH8	Trans-mitter modules FSM12 F8S12 FSM61 FTS12EM FTS12FA FSU55D FSU14	Card switch, pull switch and smoke alarm FKF FKC FZS FRW	Window/ door contact FTK	Hoppe window handle FHF	Motion/ brightness sensors FBH63 FABH63 SR-MDSBAT	Brightness sensors FAH60 FAH63 FIH63AP	Temperature controller/ sensors FTR55H FTR55D FTF55, FUT55D FUTH55D FAFT60, FIFT63 thanos [3]	Control from a PC using software GFVS
F4HK14	X	X		X	X	X [4]		X	X
FAE14LPR	X	X		X	X	X [4]		X	X
FAE14SSR	X	X		X	X	X [4]		X	X
FFR14	X	X							X
FHK14	X	X		X	X	X [4]		X	X
FMS14	X	X	X						X
FMZ14	X	X	X	X	X				X
FSB14	X	X		X	X		X		X [2]
FSG14/1-10 V	X	X		X	X	X	X		X [2]
FSR14-2x	X	X	X	X	X	X	X		X
FSR14-4x	X	X	X	X	X	X	X		X
FSR14SSR	X	X	X	X	X	X	X		X
FTN14	X	X		X		X			X
FUD14/800 W	X	X		X	X	X	X		X [2]
FUD14	X	X		X	X	X	X		X [2]
FZK14			X	X	X	X [4]			
FADS60	X	X		X	X	X [4]			X
FFR61-230 V	X	X							X
FGM	X	X	X	X	X	X [4]			X
FHK61-230 V	X	X		X	X	X [4]		X	X
FHK61/8-24 V UC	X	X		X	X	X [4]		X	X
FHK61SSR	X	X		X	X	X [4]		X	X [2]
FHK70-230 V	X	X		X	X	X [4]		X	X
FKLD61	X	X				X	X		X [2]
FKR70/1-10 V	X	X				X	X		X
FKR70UD-230 V	X	X				X	X		X
FLC61NP-230 V	X	X	X			X	X		X
FLS70/1-10 V	X	X				X			X [2]
FLS70UD-230 V	X	X				X			X [2]
FMD70-230 V	X	X				X	X		X [2]
FMS61NP-230 V	X	X							X
FMZ61-230 V	X	X	X	X	X				X
FSB61NP-230 V	X	X		X	X		X		X [2]
FSB70-230 V	X	X		X	X		X		X [2]
FSG70/1-10 V	X	X							X
FSR61-230 V	X	X	X	X	X	X [4]	X		X
FSR61/8-24 V UC	X	X	X	X	X	X [4]	X		X
FSR61G-230 V	X	X	X	X	X	X [4]	X		X
FSR61LN	X	X	X	X	X	X [4]	X		X
FSR61NP-230 V	X	X	X	X	X	X [4]	X		X
FSR61VA	X	X	X	X	X	X [4]	X		X
FSR70-230 V	X	X	X	X	X	X [4]	X		X
FSR70S-230 V	X	X	X			X [4]	X		X
FSSA-230 V	X	X							X
FSUD-230 V	X	X							X [2]
FSVA-230 V	X	X							X
FTN61NP-230 V	X	X		X		X			X
FUA55LED	X	X		X	X	X			X
FUD61NP-230 V	X	X				X	X		X [2]
FUD61NPN-230 V	X	X				X	X		X [2]
FUD70-230 V	X	X				X	X		X [2]
FUD70S-230 V	X	X							X [2]
FUTH55D				X	X				
FZK61NP-230 V			X	X	X	X [4]			
FZK70-230 V			X	X	X	X [4]			
F2L61-230 V	X	X		X	X			X	X
F2L70-230 V	X	X		X	X			X	X

[1] Only FTR55H, FTR55D, FUT55D and FUTH55D [2] Also controllable by activation telegrams from the FVS software 23.01.2013
[3] thanos LSR, LSRQ and SSR can be taught-in in all actuators and in the FVS software [4] Only motion detection

Operating distances between sensors and actuators

Compared with hard-wired systems, EnOcean wireless systems are highly flexible and simple to install.
The following instructions simplify installation. You will find detailed instructions on wireless network planning in the 12-page booklet "EnOcean Wireless Systems – Range planning Guide" that you can download from www.enocean.com.

1. Wireless signal range

Wireless signals are electromagnetic waves. The field strength at the receiver decreases the further the distance away from the transmitter. **The wireless range is therefore limited. Obstacles standing in the radio field the also shorten range compared with line-of-sight links:**

Obstacle	Reduced range
Wood, plaster, glass uncoated, with no metal	0 - 10 %
Brick, particle board	5 - 35 %
Concrete with iron reinforcement bars	10 - 90 %
Metal, aluminium cladding	*see 2.*

The geometric shape of a room determines the radio range since propagation is not in the form of a beam but requires a certain volume of space (the radio beam from the transmitter and receiver ellipsoidal at their points of focus). Narrow corridors with solid walls are bad for propagation.

External antennas typically have better radio characteristics than flush-mounted receivers installed in walls. The type of fitted for the antennas and the spacing from ceilings, floors and walls all play a role.

People and obstacles in a room may reduce range.

It is therefore essential to integrated some reserve when performing range planning to ensure the reliable functioning of the wireless system even in poor conditions.

A sturdy, reliable installation in a building is achieved by integrating sufficient range reserves.
Recommendations from everyday practice:

Range	Conditions
> 30 m	Under excellent conditions: Large free room, optimum antenna design and good antenna position.
> 20 m (planning safety)	If there are furniture and persons in the room, through up to 5 dry plasterboard walls or 2 brick/aerated concrete walls: For transmitters and receivers with good antenna design and good antenna position.
> 10 m (planning safety)	If there are furniture and persons in the room, through up to 5 plasterboard drywalls or 2 brick/aerated concrete walls: For receivers fitted in wall or in ceiling. Or small receiver with internal antenna. Or together with switch/wire antenna on/near metal. Or a narrow corridor.
Dependent on reinforcement and antenna design	Vertical through 1-2 ceilings

2. Partitioning

So-called radio shadows form behind metal surfaces, e.g. behind metal partition walls and metal ceilings, behind metal foils of heat insulation and solid reinforcement in concrete walls. Single thin metal strips have very little influence, for example the profile sections in a plasterboard drywall.

It has been observed that radio communications also works with **metal room dividers.** This occurs by reflections: metal and concrete walls reflect radio waves and they travel to neighbouring corridors or rooms through openings, e.g. in a wooden door or a glass partition. The range may be strongly reduced depending on the location. An additional repeater at a suitable location can easily offer alternative radio paths.

Important conditions that reduce radio range:

- Metal partition walls or hollow walls filled with insulation wool backed by metal foil
- Suspended ceilings with panels made of metal or carbon fibre
- Steel furniture or glass with metal coating
- Fitting the pushbutton on a metal wall (typical range loss: 30%)
- Use of metal pushbutton frames (typical range loss: 30%)

Firewalls, staircases and building services areas should be regarded as partitions.

A partition can be avoided by repositioning the transmitter/receiver antenna out of the radio shadow or by using a repeater.

Operating distances between sensors and actuators

3. Penetration angle

The angle at which the transmitted signal impinges on the wall plays a special role. Signals should penetrate masonry as vertically as possible. Wall niches must be avoided.

4. Antenna installation

The receive antenna or a **receiver with an integrated antenna** should not be installed on the same side of the wall as the transmitter. It is better to install the antenna on adjacent or opposite walls. The antennas should be spaced from the room corner at a distance of >10 cm as far as possible.

The ideal installation location for the receive antenna is a central position in the room.

A **"magnet foot antenna"** (e.g. Eltako FA200 or FA250) must adhere on a metallic surface that is as large as possible in order to create a sufficient opposite pole. For example, the simplest installation can be on a ventilation pipe.

5. Spacings between receiver and other interference sources

The spacing between the receiver and other transmitters (e.g. GSM/DECT/Wireless LAN) and high-frequency interference sources (computer, audio and video systems) should be >50 cm.

Eltako transmitters, on the other hand, can be installed without any problem next to other transmitters and interference sources.

6. Use of repeaters

In case of problems with reception quality, it may be helpful to use a wireless repeater. The Eltako Repeater FRP61 (see page **Z**-0) requires no configuration, only a mains connection. If receives the wireless signal and passes it on. This almost doubles the range. Eltako repeaters are switchable to 2-level function and allow more than two repeaters to be cascaded.

7. Field strength measuring instrument

The field strength measuring instrument EPM300 (see page **Z**-6) helps to find the best position for transmitter and receiver. Moreover, it can be used to test link interferences in installed devices and even identify an interfering transmitter.

8. Installation in residential buildings

Here there is no real necessity to overcome large radio links. If necessary, a central wireless repeater can be installed to amplify the signal.

9. Installation in industrial buildings

To cover large premises, a wireless gateway is typically used as an automation bus (TCP/IP, EIB/KNX, LON, etc.). Planning with a range radius of 10-12 m offers sufficient security, even if there are the usual changes to the environmental conditions later.

Communication within Eltako Wireless Building

All Eltako wireless sensors and Eltako wireless actuators communicate within the Eltako wireless network by means of wireless telegrams that are formatted using the world-wide standard of EnOcean Alliance. These are the EEPs as described below; some of them are partly modified to a certain extent. The feedback from the bidirectional actuators to confirm the switch position correspond to those of the PTM200 wireless modules but without the telegram sent when the button is released.

Sensor telegrams

FABH63+FBH55+FBH63+FIBH63 (EEP: similar to 07-08-01)

(EEP: similar to 07-08-01, expanded brightness range, no Occupancy Button in DB0_Bit0)

ORG =	0x07
Data_byte3 =	-
Data_byte2 =	brightness 0 – 2048 lux, linear n = 0x00 – 0xFF
Data_byte1 =	-
Data_byte0 =	DB0_Bit3 = LRN Button (0 = teach-in telegram, 1 = data telegram) DB0_Bit1 = motion (0 = motion , 1 = no motion) for data telegram: 0x0D (motion), 0x0F (no motion) for teach-in telegram: 0x85

Teach-in telegram BD3..DB0: 0x20, 0x08, 0x0D, 0x85

FAFT60+FIFT63AP (EEP: 07-04-02 plus Data_byte3)

ORG =	0x07
Data_byte3 =	charge state of energy accumulator (e.g 2.5 V = 0x59 … 4 V = 0x9B)
Data_byte2 =	rel. humidity 0 .. 100%, linear 0x00 – 0xFA, i.e. (0..250 dez.)
Data_byte1 =	Actual temperature -20°C .. +60°C, linear 0x00 - 0xFA, i.e. (0..250 dez.)
Data_byte0 =	DB0_Bit3 = LRN Button (0 = teach-in telegram, 1 = data telegram) for data telegram: 0x0F, for teach-in telegram: 0x87

Teach-in telegram BD3..DB0: 0x10, 0x10, 0x0D, 0x87

FAH60+FAH63+FIH63 (EEP: 07-06-01 plus Data_byte3)

ORG =	0x07
Data_byte3 =	brightness 0 – 100 lux, linear n = 0x00 – 0xFF (only valid if DB2 = 0x00)
Data_byte2 =	brightness 300 – 30.000 lux, linear n = 0x00 – 0xFF
Data_byte1 =	-
Data_byte0 =	DB0_Bit3 = LRN Button (0 = teach-in telegram, 1 = data telegram) for data telegram: 0x0F, for teach-in telegram: 0x87

Teach-in telegram BD3..DB0: 0x18, 0x08, 0x0D, 0x87

FASM60+FSM12+FSM61+FSU12D+FSU55D

ORG =	0x05
Data_byte3 =	0x70/0x50

FKC+FKF

ORG =	0x05
Data_byte3 =	0x10/0x00

FRW

ORG =	0x05
Data_byte3 =	0x10 = alarm 0x00 = alarm-end 0x30 = battery voltage < 7.2 V

FSS12+FWZ12 (EEP: 07-12-01)

ORG =	0x07	
Data_byte3 to Data_byte1 form a 24-bit binary coded number		
Data_byte3 =	Data Byte 3 (MSB)	0…16777215
Data_byte2 =	Data Byte 2	0…16777215
Data_byte1 =	Data Byte 1 (LSB)	0…16777215
Data_byte0 =	DB0_Bit4 = tariff switchover (0 = normal rate, 1 = off-peak rate) DB0_Bit3 = LRN Button (0 = teach-in telegram, 1 = data telegram) DB0_Bit2 = switchover data content: 1 = momentary power in watts, 0 = meter status in 0.1 KW/h DB0_Bit1 = 0 (fix) DB0_Bit0 = 1 (fix) Possible values in data telegram: DB0 = 0x09 -> meter status normal rate in 0,1 KW/h DB0 = 0x19 -> meter status off-peak rate in 0,1KW/h DB0 = 0x0C -> momentary power in W, normal rate active DB0 = 0x1C -> momentary power in W, off-peak rate active	

Teach-in telegram BD3..DB0: 0x48, 0x08, 0x0D, 0x80 (is sent once at every power-up)

FT4+FT4F+FT55 with rocker

ORG =	0x05
Data_byte3 =	0x70/0x50

FT4+FT4F+FT55 with double rocker

ORG =	0x05
Data_byte3 =	0x70/0x50/0x30/0x10

FTF55 (EEP: 07-02-05)

ORG =	0x07
Data_byte3 =	-
Data_byte2 =	-
Data_byte1 =	actual temperature 0 – 40°C, linear 0xFF - 0x00
Data_byte0 =	DB0_Bit3 = LRN Button (0 = teach-in telegram, 1 = data telegram) for data telegram: 0x0F, for teach-in telegram: 0x87

Teach-in telegram BD3..DB0: 0x08, 0x28, 0x0D, 0x87

FTK (EEP: 06-00-01)

ORG =	0x06
Data_byte3 =	contact closed -> 0x09 contact open -> 0x08 teach-in button pressed -> 0x00
Data_byte2 =	-
Data_byte1 =	-
Data_byte0 =	-

Teach-in telegram BD3..DB0: 0x00, 0x00, 0x00, 0x00

Sensor telegrams

FTR55D+FTR55H (EEP: 07-10-03 plus Data_byte3)

ORG = 0x07
Data_byte3 = night reduction 0-5°K in 1° steps
0x00 = 0°K, 0x06 = 1°K,
0x0C = 2°K, 0x13 = 3°K, 0x19 = 4°K, 0x1F = 5°K
Data_byte2 = reference temperature 0 – 40°C, linear 0x00 - 0xFF
Adjustable range: FTR55D: 8°C – 40°C
FTR55H: 12°C – 28°C
Data_byte1 = actual temperature 0 – 40°C, linear 0xFF - 0x00
Data_byte0 = DB0_Bit3 = LRN Button
(0 = teach-in telegram, 1 = data telegram)
for data telegram: 0x0F, for teach-in telegram: 0x87

Teach-in telegram BD3..DB0: 0x40, 0x30, 0x0D, 0x87

FTS12EM (only telegrams for the Eltako-RS485-Bus)

The pushbutton input module generates FT4 telegrams within the RS485 Bus. The basis ID's 1, 11, 21, 31, 41, 51, 61, 71, 81 and 91 are used depending on the preset ID range.

ORG = 0x05
Data_byte3 = control of +A1 -> 0x70 (basis-ID+0)
control of +A3 -> 0x50 (basis-ID+1)
control of +A4 -> 0x70 (basis-ID+2)
New from week 30/2011 -> 0x30
control of +A5 -> 0x50 (basis-ID+3)
New from week 30/2011 -> 0x10
control of +A6 -> 0x70 (basis-ID+4)
control of +E1 -> 0x70 (basis-ID+5)
control of +E3 -> 0x50 (basis-ID+6)
control of +E4 -> 0x70 (basis-ID+7)
New from week 30/2011 -> 0x30
Ansteuerung von +E5 -> 0x50 (basis-ID+8)
New from week 30/2011 -> 0x10
Ansteuerung von +E6 -> 0x50 (basis-ID+9)

If the control of a control input will be finished, a telegram with the respective ID and **Data_byte3 = 0x00** will be created.

Data_byte2 = not used (0x00)
Data_byte1 = not used (0x00)
Data_byte0 = not used (0x00)

FWS61

The FWS61 has two telegrams to one data set, which are sent successively.

In the telegrams last Byte (UU oder YY) it can be identified, which telegram part is involved.

Telegram part 1: 0xRRSSTTUU

- RR is the twilight sensor which supplies data from 0-1000 Lux (0-255)
  e.g.: 0x7A = 122; 122*1000/255 = 478 lux
- SS is the temperature which lies between -40°C (corresponding 0) and +80°C (255)
  e.g.: 0x2C = 44; 44*120/255 = 20,7 à lower 40 after that 40-20,7 = 19.3°C
  e.g.: 0x6F = 111; 111*120/255 = 52,2 à not lower then 40 after that 52.2-40 = 12,2°C
- TT is the wind speed which lies between 0m/s (corresponding 0) and 70m/s (255)
  e.g.: 0x55 = 85; 85*70/255 = 23 m/s
- UU is either 0x1A with "rain" or 0x18 with "no rain".

Telegram part 2: 0xVVWWXXYY

- VV is the solar value of the west sensor 0(0)-150 kLux(255)
  e.g.: 0x44 = 68; 68*150/255 = 40 klux
- WW is the solar value of the south sensor 0 (0)-150 kLux (255)
- XX is the value of the east sensor 0 (0)-150 kLux (255)
- YY is always 0x28

Teach-in telegram BD3..DB0: 0x4C080D80

DSZ14DRS, DSZ14WDRS (EEP: 07-12-01)

ORG = 0x07
Data_byte3 to Data_byte1 form a 24-bit binary coded number

Data_byte3 = Data Byte 3 (MSB) 0…16777215
Data_byte2 = Data Byte 2 0…16777215
Data_byte1 = Data Byte 1 (LSB) 0…16777215
Data_byte0 = DB0_Bit4 = tariff changeover
(0 = Normal rate, 1= Off-peak rate)
DB0_Bit3 = LRN pushbutton (0 = teach-in telegram, 1 = data telegram)
DB0_Bit2 = Data content switchover:
1 = momentary power in watts,
0 = meter status in 0.1 KW/h
DB0_Bit1 = 0 (fix)
DB0_Bit0 = 1 (fix)

Possible values in data telegram:
DB0 = 0x09 -> meter status normal rate in 0.1 KW/h
DB0 = 0x19 -> meter status off-peak rate in 0.1KW/h
DB0 = 0x0C -> momentary power in W, normal rate active
DB0 = 0x1C -> momentary power in W, off-peak rate active

Teach-in telegram DB3..DB0: 0x48, 0x08, 0x0D, 0x80 (is sent once at every power-up)

ID = Base-ID of FAM14 + device address of DSZ14(W)DRS

In addition, the meter serial number printed on the meter is transmitted every 10 minutes.

The data is divided into 2 consecutive telegrams.

1. part: DB0 = 0x8F -> meter serial number = S-AABBCC (A,B,C = 0..9)
DB1 = 0x00 -> the first 2 digits of the serial number in DB3
DB2 = 0x00
DB3 = AA

2. part: DB0 = 0x8F -> meter serial number = S-AABBCC (A,B,C = 0..9)
DB1 = 0x01 -> the last 4 digits of the serial number in DB2 and DB3
DB2 = BB
DB3 = CC

FWZ61 (EEP: 07-12-01)

ORG = 0x07
Data_byte3 to Data_byte1 form a 24-bit binary coded number

Data_byte3 = Data Byte 3 (MSB) 0…16777215
Data_byte2 = Data Byte 2 0…16777215
Data_byte1 = Data Byte 1 (LSB) 0…16777215
Data_byte0 = DB0_Bit4 = 0 (fixed)
DB0_Bit3 = LRN Button
(0 = teach-in telegram, 1 = data telegram)
DB0_Bit2 = switchover data content:
1 = momentary power in watts,
0 = meter status in 0.1 KW/h
DB0_Bit1 = 0 (fixed)
DB0_Bit0 = 1 (fixed)

Possible values in data telegram:
DB0 = 0x09 -> meter status normal rate in 0.1 KW/h
DB0 = 0x19 -> meter status off-peak rate in 0.1 KW/h
DB0 = 0x0C -> momentary power in W, normal rate active
DB0 = 0x1C -> momentary power in W, off-peak rate active

Teach-in telegram BD3..DB0: 0x48, 0x08, 0x0D, 0x80 (is sent once on every power-up)

FZS

ORG = 0x05
Data_byte3 = 0x10/0x00

Activation telegrams from the GFVS software

FLC61-230 V

Direct switching command, FUNC=38, Command 1, (like EEP 07-38-08).

There is the possibility to **block*** the switching state with absolut priority so that it cannot be changed by other taught-in pushbuttons.

ORG = 0x07
Data_byte3 = 0x01
Data_byte2 = no used
Data_byte1 = no used
Data_byte0 = DB0_Bit3 = LRN Button
(0 = teach-in telegram, 1 = data telegram)
DB0_Bit2 = 1: **block* switching state**,
0: do not block switching state
DB0_Bit0 = 1: switching output ON,
0: switching output OFF

Data telegrams have to look like date:
0x01, 0x00, 0x00, **0x09** (switching output ON, not blocked)
0x01, 0x00, 0x00, **0x08** (switching output OFF, not blocked)
0x01, 0x00, 0x00, **0x0D** (switching output ON, blocked)
0x01, 0x00, 0x00, **0x0C** (switching output OFF, blocked)

FSB12, FSB14

Direct drive command with specification of runtime in s. FUNC=3F, Typ=7F (universal). Separately for each channel.

ORG = 0x07
Data_byte3 = -
Data_byte2 = runtime in seconds 1-255 dec,
the runtime setting on the device is ignored.Data_
byte1 = command:
0x00 = Stop
0x01 = Up
0x02 = Down
Data_byte0 = DB0_Bit3 = LRN Button
(0 = teach-in telegram, 1 = data telegram)

Teach-in telegram BD3..DB0 must look like this: 0xFF, 0xF8, 0x0D, 0x80
It is possible to interrupt at any time by pressing taught-in buttons!

FSB61

Direct drive command with specification of runtime in s. FUNC=3F, Typ=7F (universal).

ORG = 0x07
Data_byte3 = -
Data_byte2 = runtime in seconds 1-255 dec,
the runtime setting on the device is ignored.Data_
byte1 = command:
0x00 = Stop
0x01 = Up
0x02 = Down
Data_byte0 = DB0_Bit3 = LRN Button
(0 = teach-in telegram, 1 = data telegram)

Teach-in telegram BD3..DB0 must look like this: 0xFF, 0xF8, 0x0D, 0x80
It is possible to interrupt at any time by pressing taught-in buttons!

FHK61SSR

Direct transfer of PWM value from 0 to 100%.

ORG = 0x07
Data_byte3 = 0x02
Data_byte2 = PWM value in % from 0 to 100 dec.
Data_byte1 = PWM basic time T in 10 second steps
from 1-100 dec., e.g. 12:T = 120 seconds
Data_byte0 = DB0_Bit3 = LRN Button
(0 = teach-in telegram, 1 = data telegram)
DB0_Bit1 = 1: Repeater on, 0: Repeater off.
DB0_Bit0 = 1: PWM on, 0: PWM off.

Teach-in telegram DB3..DB0 have to look like this: 0xE0, 0x40, 0x00, 0x80
Data telegrams DB3..DB0 have to look like this for example:
0x02, 0x2D, 0x0A, 0x09 (PWM on with 45% and T = 100 seconds, repeater off)
0x02, 0x64, 0x18, 0x09 (PWM on with 100% and T = 240 seconds, repeater off)
0x02, 0x14, 0x12, 0x0B (PWM on with 20% and T = 180 seconds, repeater on)

FSR12-4x-12 VDC, FSR14-2x, FSR14-4x, FSR14SSR

Direct switching command, FUNC=38, Command 1, (like EEP 07-38-08). Separately for each channel.

There is the possibility to **block*** the switching state with absolut priority so that it cannot be changed by other taught-in pushbuttons.

ORG = 0x07
Data_byte3 = 0x01
Data_byte2 = no used
Data_byte1 = no used
Data_byte0 = DB0_Bit3 = LRN Button
(0 = teach-in telegram, 1 = data telegram)
DB0_Bit2 = 1: **block* switching state**,
0: do not block switching state
DB0_Bit0 = 1: switching output ON,
0: switching output OFF

Data telegrams have to look like date:
0x01, 0x00, 0x00, **0x09** (switching output ON, not blocked)
0x01, 0x00, 0x00, **0x08** (switching output OFF, not blocked)
0x01, 0x00, 0x00, **0x0D** (switching output ON, blocked)
0x01, 0x00, 0x00, **0x0C** (switching output OFF, blocked)

FUD12NPN, FUD61NP, FUD61NPN

Direct transfer of dimming value from 0 to 100%, similar to FUNC=38, Command 2.

ORG = 0x07
Data_byte3 = 0x02
Data_byte2 = dimming value in % from 0 to 100 dec.
Data_byte1 = dimming speed
0x00 = the dimming speed set on the dimmer is used.
0x01 = very fast dimming speed …. to …
0xFF = very slow dimming speed
Data_byte0 = DB0_Bit3 = LRN Button
(0 = teach-in telegram, 1 = data telegram)
DB0_Bit0 = 1: Dimmer ON, 0: Dimmer OFF.

Teach-in telegram BD3..DB0 must look like this: 0x02, 0x00, 0x00, 0x00

Data telegrams BD3..DB0 must look like this, for example:

0x02, 0x32, 0x00, 0x09 (dimmer on at 50% and internal dimming speed)
0x02, 0x64, 0x01, 0x09 (dimmer on at 100% and fastest dimming speed)
0x02, 0x14, 0xFF, 0x09 (dimmer on at 20% and slowest dimming speed)
0x02, 0x.., 0x.., 0x08 (dimmer off)

FUD14, FUD14-800W, FSG14/1-10 V

Direct transfer of dimming value from 0 to 100%, similar to FUNC=38, Command 2.

ORG = 0x07
Data_byte3 = 0x02
Data_byte2 = dimming value in % from 0 to 100 dec.
Data_byte1 = dimming speed
0x00 = the dimming speed set on the dimmer is used.
0x01 = very fast dimming speed …. to …
0xFF = very slow dimming speed
Data_byte0 = DB0_Bit3 = LRN Button
(0 = teach-in telegram, 1 = data telegram)
DB0_Bit0 = 1: Dimmer ON, 0: Dimmer OFF.
DB0_Bit2 = 1: **Block dimming value**
0: Dimming value not blocked

Teach-in telegram BD3..DB0 must look like this: 0x02, 0x00, 0x00, 0x00

Data telegrams BD3..DB0 must look like this, for example:

0x02, 0x32, 0x00, 0x09 (dimmer on at 50% and internal dimming speed)
0x02, 0x64, 0x01, 0x09 (dimmer on at 100% and fastest dimming speed)
0x02, 0x14, 0xFF, 0x09 (dimmer on at 20% and slowest dimming speed)
0x02, 0x.., 0x.., 0x08 (dimmer off)

Confirmation telegrams of bidirectional actuators

FADS60-230V

Every time the internal switching relay changes state, a PTM200 telegram containing the unique ID of the integrated TCM300 is sent after approx. 300-400 ms. With central commands (ZE/ZA), the relay state is also sent if the state already matches the required state.

ORG = 0x05
Data_byte3 = 0x70 = relay ON, 0x50 = relay OFF
Remark: ON 0x00 (would be equivalent to button released) is never sent!

FFR61-230V, FZK61NP-230V

Every time the state of the internal switching relay 1 changes, the internal switching relay 1 sends a PTM200 telegram containing the unique ID of the integrated TCM300 after approx. 300 ms. Relay 2 sends the same telegram after approx. 1000 ms.

ORG = 0x05
Data_byte3 = 0x70 = channel 1 ON, 0x50 = channel 1 OFF
0x30 = channel 2 ON, 0x10 = channel 2 OFF
Remark: ON 0x00 (would be equivalent to button released) is never sent!

FHK61-230V, FHK61/8-24V

Every time the internal switching relay changes state, a PTM200 telegram containing the unique ID of the integrated TCM300 is sent after approx. 300 ms.

ORG = 0x05
Data_byte3 = 0x70 = relay ON, 0x50 = relay OFF
Remark: ON 0x00 (would be equivalent to button released) is never sent.

FHK61SSR

Every time a PWM data telegram is received the same telegram is send with the unique ID of the integrated TCM 300.

At activation or deactivation of the thaw signal input a PTM200 telegram containing the unique ID of the integrated TCM 300 will be send.

Cyclically every 15 minutes a status signal will be send.

ORG = 0x05
Data_byte3 = 0x70 = thaw signal input active,
0x50 = thaw signal input inactive

FMS61NP-230V

Every time the internal switching relay 1 changes state, a PTM200 telegram containing the unique ID of the integrated TCM300 is sent after approx. 300 ms. Relay 2 sends this message after approx. 1000 ms.

With central commands (ZE/ZA), the relay state is also sent if the state already corresponds to the desired state.

ORG = 0x05
Data_byte3 = 0x70 = channel 1 ON, 0x50 = channel 1 OFF
0x30 = channel 2 ON, 0x10 = channel 2 OFF
Remark: ON 0x00 (would be equivalent to button released) is never sent.

FMZ61-230V

Every time the the internal switching relay changes state, a PTM200 telegram containing the unique ID of the integrated TCM300 is sent after approx. 300-400 ms.

With central commands (ZE/ZA), the relay state is also sent if the state already corresponds to the desired state.

ORG = 0x05
Data_byte3 = 0x70 = relay ON, 0x50 = relay OFF
Remark: ON 0x00 (would be equivalent to button released) is never sent.

FSB61NP-230V, FSB70

When the top or bottom end position is reached on expiry of the RV time set on the device, a PTM telegram containing the unique ID of the integrated TCM300 after approx. 300-400 ms.

ORG = 0x05
Data_byte3 = 0x70 = top end position,
0x50 = bottom end position
0x00 = motor running, or roller shutter stopped at some indefinite position since it was stopped manually

Remark: The RV time must be set on the device so that the end position is always reached. If the roller shutter is already at an end position, the relay is switched on receipt of a drive command anyway (0x00 is sent) and it is switched off on expiry of the RV. (0x70 or 0x50 is sent)

FSR61NP-230V, FSR61-230V, FSR61/8-24V, FSR61LN-230V, FSR61VA-10A, FSR70-230V, FSR70W-16A, FTN61NP-230V, FLC61NP-230V, FSSA-230V, FSVA-230V

Every time the the internal switching relay state changes, a PTM200 telegram containing the unique ID of the integrated TCM300 is sent after approx. 300-400 ms. With central commands (ZE/ZA) the relay state is also sent if the state already corresponds to the required state.

ORG = 0x05
Data_byte3 = 0x70 = relay ON, 0x50 = relay OFF
Remark: ON 0x00 (would be equivalent to button released) is never sent.

FUD61NP-230V, FUD61NPN-230V, FUD70, FSG70/1-10V, FSUD-230V

Every time the dimmer is switched on or off, a PTM200 telegram containing the unique ID of the integrated TCM300 is sent after approx. 300-400 ms.

ORG = 0x05
Data_byte3 = 0x70 = dimmer ON, 0x50 = dimmer OFF

In addition, approx. 1 second after reaching the required dimming value, a 4BS telegram containing the unique ID of the integrated TCM300 is also sent.

ORG = 0x07
Data_byte3 = 0x02
Data_byte2 = dimming value in % of 0-100 dec .
Data_byte1 = 0x00
Data_byte0 = 0x08 = dimmer OFF, 0x09 = dimmer ON.
Caution: No teach-in telegram containing ORG=7 can be generated.
Caution: Two telegram kinds (ORG=5, ORG=7) containing the same ID are sent!

To teach-in reply confirmation telegrams of bidirectional actuators into other actuators or into the software GFVS the local control input has to be used to change the switching position and to simultanously send the confirmation telegrams.

Series 14 confirmation telegram

As soon as Series 14 actuators receive a device address, the FAM14 can request actuators for confirmation telegrams. The confirmation telegrams are then radioed by the FAM14. The ID of the radioed telegrams is identical to the Base ID of the TCM300 in the FAM14 plus the device address. Multichannel actuators have consecutive device addresses corresponding to the number of channels.

Note: Depending on the number of actuators on the bus, there may be a time lapse of up to 10 seconds before a confirmation telegram is requested and radioed. If fast confirmation is expected by certain actuators, a device list for confirmation telegrams must be generated via the PCT14. The actuator must be entered several times in the device list. The FAM14 must then be operated in operating mode 5.

Confirmation telegrams of bidirectional actuators

FUD14, FUD14-800W, FSG14/1-10V

Here you can select 2 confirmation telegrams in the PCT14 configuration independently of each other.

1. PTM200 telegram ORG=0x05
Data_byte3: 0x70 = Dimmer ON, 0x50 = Dimmer OFF

2. 4BS telegram with dimming value
ORG = 0x07
Data_byte3 = 0x02
Data_byte2 = Dimming value in %
Data_byte1 = 0x00
Data_byte0 = 0x08 = Dimmer OFF, 0x09 = Dimmer ON

FSB14

Per channel: PTM200 telegram
ORG=0x05
Data_byte3 = 0x70 = end position top, 0x50 = end position bottom,
0x00 = motor running, or roller shutter stopped at undefined position since it was stopped manually

Remark: The RV time must be set on the device so that the end position is always reached. If the roller shutter is already at an end position, the relay is switched on on receipt of a drive command anyway (0x00 is sent) and it is switched off on expiry of the RV. (0x70 or 0x50 is sent)

F4HK14, FHK14, FAE14LPR, FAE14SSR

Per channel: PTM200 telegram
ORG=0x05
Data_byte3 = 0x70 = normal mode, 0x50 = night reduction (-4°K)
0x30 = setback mode (-2°K), 0x10 = OFF (frost protection active)
In addition every telegram received from a taught-on temperature sensor (e.g. B. FTR55H) is repeated as a confirmation telegram.

FMSR14

The FMSR14 evaluates the MS multisensor data which is fed to the Eltako wireless network by the FWS61 transmitter module. The data contains measured values for sunlight from 3 cardinal points, light values to evaluate twilight, and wind speed in m/s.

In addition there are signals for rain and frost.

The device occupies 5 device addresses, providing confirmation telegrams for each of the 3 parameters and the 2 signals containing confirmation telegrams with an individual ID.

Limits can be set using the PCT14 configuration for the measured values of sunlight, twilight and wind speed. If these parameters are exceeded or overshot, telegrams containing Data_byte3 = 0x70 or 0x50 (selectable) are generated.

As soon as the limits are no longer exceeded or overshot, a telegram containing Data_byte3 = 0x00 is generated.

The signals for frost and rain are also converted into telegrams containing Data_byte3 = 0x70 or 0x50 (selectable).

When the signals are cancelled, telegrams containing Data_byte3 = 0x00 are generated.

FSU14

The 8 timer channels correspond to the 8 device addresses of the FSU14. Switch on/off commands are generated in the form of confirmation telegrams depending on the programmed switching times for the individual channels:

PTM200 telegrams ORG=0x05
Data_byte3 = 0x70 = switch ON, 0x50 = switch OFF

FSR14-2x, FSR14-4x, FSR14SSR, FFR14, FMS14, FMZ14, FTN14, FZK14

With multichannel actuators per channel:

PTM200 telegram ORG=0x05
Data_byte3: 0x70 = relay ON, 0x50 = relay OFF

To teach-in reply confirmation telegrams of bidirectional actuators into other actuators or into the software GFVS the local control input has to be used to change the switching position and to simultanously send the confirmation telegrams.

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Key to abbreviations

Type	Meaning	Chapter
BSC-BoR	USB wireless receiver	**V**
BLA, BLF	blind cover	**1**
BRF	attachment frame	**1**
DW	double rocker	**1, Z**
DS	spacer	**4**
DSS	german fused safety socket	**1**
DSZ	three-phase electricity meter	**4, 7**
EPM	EnOcean level meter	**Z**
F2L	wireless 2-channel fan relay	**5**
F4HK	wireless 4-channel heating/cooling relay	**4**
F8S	wireless 8-fold transmitter module	**2**
FA	wireless antenna	**4, Z**
FAE	wireless actuator single room control	**6**
FABH	wireless outdoor motion/brightness sensor	**2**
FADS	wireless outdoor twilight sensor with actuator	**2**
FAFT	wireless outdoor humidity temperature sensor	**2**
FAH	wireless outdoor brightness sensor	**2**
FAM	wireless antenna module	**4**
FAM-USB	wireless antenna module with USB port	**V**
FARP	outdoor wireless repeater	**Z**
FASM	wireless outdoor transmitter module	**2**
FBA	wireless bus coupler	**4**
FBH	wireless motion/brightness sensor	**2**
FEA	wireless energy consumption indicator	**2, 7**
FF8	wireless remote control	**1**
FFR	wireless mains disconnection relay	**4, 5**
FFT	flat pushbuttons	**1**
FGM	wireless gong module	**5**
FGSM	wireless GSM reciever	**4, V**
FGW	wireless bus gateway	**4**
FHF	wireless window handle from Hoppe	**2**
FHK	wireless heating/cooling relay	**4, 5**
FHM	wireless HF ground for FA250	**Z**
FHS	wireless hand-held transmitter	**1**
FIFT	indoor humidity temperature sensor	**2**
FIH	indoor brightness sensor	**2**
FIW	wireless infrared converter	**1**
FKC, FKF	wireless hotel key card switch	**1**
FKL	wireless constant current LED dimmer switch	**5**
FKR	wireless constant light controller	**4, 5**
FKS	wireless small actuator	**6**
FLC	light controller	**5**
FLS	wireless light scene controllers	**4, 5**
FLUD	capacity enhancer for FUD	**4**
FMD	wireless master universal dimmer switch	**5**
FME	modular wireless single room control	**6**
FMH	wireless mini hand-held transmitter	**1**
FMS	wireless multifunction impulse switch	**4, 5**
FMSR	wireless bus multifunction sensor relay	**4**
FMT	mini pushbuttons	**1**
FNT	wireless proximity pushbutton	**1**
FMZ	wireless multifunction time relay	**4, 5**
FPP	wireless Powernet phase coupler	**3**
FPR	wireless Powernet repeater	**3**
FPV	wireless Powernet connector	**3**
FPZ	wireless Powernet meter connector	**3**
FRW	smoke alarm	**2**
FRP	wireless repeater	**4, Z**
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Type	Meaning	Chapter
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FSD	wireless slave universal dimmer switch	
FSG	wireless controller	**4, 5**
FSM	wireless transmitter module	**2**
FSNT	wireless power supply unit	**2, 5, Z**
FSR	wireless impulse switch with integr. relay function	**4, 5, 7**
FSRP	wireless socket repeater	**Z**
FSS	wireless energy meter transmitter module	**2, 7**
FSSA	wireless socket switching actuator	**5**
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FSVA	wireless socket switching actuator with current measurement	**5, 7**
FSUD	wireless socket universal dimmer switch	**5**
FT4, FT4F, FT55	wireless pushbutton with up to 4 signals	**1**
FT4G, FT4GF	wireless pushbutton with up to 4 signals	**1**
FTB	wireless pushbutton LED lighting	**1**
FTF	wireless temperature sensor	**2**
FTK	wireless window/door contact	**2**
FTN	wireless staircase time switch and off-delay timer	**4, 5**
FTR	wireless temperature controller	**2, 6**
FTS12	wireless pushbutton input module	**3**
FUA	wireless universal display	**5**
FUD	wireless universal dimmer switch	**4, 5**
FUT	wireless clock thermometer	**2**
FUTH	wireless thermo clock/hygrostat	**2**
FVS	wireless visualisation and control software	**7+V**
FWS	weather data transmitter module	**2**
FWZ	wireless single-phase energy meter	**7**
FZS	wireless pull switch	**1**
FZK	wireless time relay for card switch	**4, 5**
GBA	housing for operating instructions	**Z**
GFVS	Wireless Building Visualisation and Control Software	**7, V**
HP	mounting plate	**1**
KT	short-stroke pushbutton	**Z**
LUD	capacity enhancer	**4**
MWC	wireless socket strip	**Z**
PCT	PC-tool	**4**
QR, QRA, QRE, QRR	frames Q-Design	**1**
R, R1F	single frames	**1**
R2, R2F	double frames	**1**
R3, R3F	triple frames	**1**
SDO+DSS	socket outlet	**1**
SR-MDS	wireless motion/brightness sensor	**2**
SR04	wireless CO_2 sensor	**2**
SR65VFG	wireless contact temperature sensor	**2**
SR65TF	wireless cable temperature sensor	**2**
SZR, SZF	socket outlet intermediate frame	**1**
Thanos	wireless multifunction room control unit	**2, 6**
UFB+E	universal remote control	**1**
W	rocker	**1**
ZR	intermediate frame	**1**
S+D	screws and rawl plugs	**Z**
SAS	busbar	**6**
SNT	switching power supply unit	**6**
STE	power input	**6**
TSA	thermal actuator	**6**

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